

# mmiR

MILITARY MINIATURES in REVIEW

no. 49

## Diagnosis: Diorama!

A dramatic scene based  
around a scratch built T-26

Plastered Panther: ATAKing  
Dragon's Jagdpanther early  
production version

Polish meat grinder:  
The Editor gets stuck  
in Dragon's M16

MMiR artillery trio: M198,  
M2A1 and 203mm B4

Uncle Buck: an M4 High  
Speed Tractor gets rusty!

Hound of the Dragoons:  
Bronco's T17E1 Staghound

MMiR:  
the ultimate  
expression of  
good taste!



SHORT TAKES • MINI-MEN • MMiR PAINTING GUIDE



# mmiR 49

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by Mike Rinaldi.*

### ON THE COVER:

New contributor Chema Cabrero gets down and gets busy on the T-26, giving it a major styrene makeover. And, not satisfied with just that, he constructs a building, an elaborate base and converts three figures to create a dramatic scene from the Russian front.



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This summer's U.S. IPMS Nationals, held in Columbus, Ohio, was my first opportunity to visit this prestigious event. I must first of all thank everyone for making it such a great show and a very enjoyable trip.

## From Your Editor

In the UK, the standing joke is that the initials "IPMS" stand for International Plane Modeling society. Well I'm pleased to say that here in the States armor modeling looks to be just as popular as aircraft, judging by the healthy amount of armor adorning the competition tables. The standard was very good indeed. I can only imagine how hard a task it

was for the judges to pick the winners in the numerous classes. I checked them all

out myself, and they contained some truly amazing models that show just how much time and effort people put into their latest creations.

The one exhibit that caught my above everything else was the IPMS Chicago's display of 1:35 scale Panther G models built from the illustrations in the excellent book *Duel in the Mist*. The models were displayed on a mock-up of a Panther tank glacis plate—a great idea. The models themselves were all very well done. Superb stuff.

I think I scared Pat by going to look at some of the very impressive aircraft and ships on display and muttering that maybe we should diversify and include winged and floating things in MMiR. My wind up worked so well that Pat disappeared for several hours—only after an intensive room search of the adjoining hotel was he found with his thumb in his mouth, gently rocking back and forth in a darkened corner of a janitor's closet in the basement.

### Euro dreams

As I write this, my mind keeps drifting to this weekend, which is Euro Militaire weekend in Folkestone, England. For me, this show is the highlight of the modeling year. The standard of the competition models is mind-blowing and most of Europe's manufacturers are there vending their wares. It's also a great opportunity to put faces to names and to meet up with old friends from around the world who make this annual pilgrimage.

It's a fantastic chance to talk non-stop about our hobby and be total geeks without reprisal from the wife or non-modeling mates who just don't understand us. Where else can you talk about resin this and photo-etch that at two o'clock in the morning after making it a mission to consume your own body weight in beer with many of the best modelers around and the nicest people you could ask to meet?

In this issue's Short Takes section, I cover the latest releases from the vendors. With any luck, I will cover the event in general in an upcoming issue—as long as I don't enjoy the socializing aspect so much that I forget, or don't feel well enough the next day to contemplate even blinking and breathing at the same time, let alone writing a report!

### The issue at hand

Now on to this issue, as you may well have spotted, we have a bit of an Allied theme going with only a poor old Jagdpanther to carry the flag for the Nazi forces. But fear not, we have some great articles for fans of German armor in forthcoming issues.

Also in this issue, we have three small reviews on various artillery pieces. This is something I want to make a regular feature, which will help to bring MMiR back to its roots a little. After all, our title does state "in Review." The plan is to supplement the main build and paint articles with smaller ones, in which we get back to basics by building a cross-section of the latest releases from the various manufacturers and telling you what we think, plain and simple. So until next time, happy modeling!

### A change of content

MMiR has always exercised the policy that we will not knowingly publish articles that have appeared other modeling magazines. Unfortunately this has been the case with the D-Day diorama we previewed on this very page last issue.

We apologize for any inconvenience this may have caused, but we hope that Tom Jett's stunning, AMPS-winning M4 High Speed Tractor "Buck" will more than make up for this omission.

—Spud



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## Coming soon to an MMiR near you:

### PT Party!





# Short Takes

what's new, anyway?

## Aber

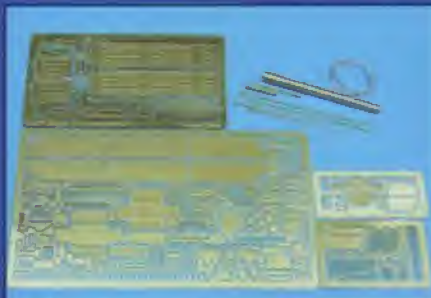
Lately, Aber has been concentrating on barrels and other turned brass details in all popular modeling scales. This is all super-duper good-looking stuff: 35L82, Set of 2 turned U.S. cal-30 barrels for machine guns Browning M1919A4 with one part muzzle; 35L83, Set of 5 pcs. German Tank MG34 machine gun tips barrels for turret mount; 48L18, Russian 152.4mm M-10S tank barrel for KV-2; 72L35, German 21cm barrel for Morser 18; 72L39, Russian 85mm D-5S Tank Barrel for SU-85; 72L40, Russian 12.4mm M10s tan barrel for KVII; 72L45, Russian D10T 100mm tank barrel for T54/55 and 25L01, set of 2 turned U.S. cal-30 barrels for machine guns Browning M1919A4 with two-part muzzle.

There are also two new antenna offerings: 48A20, German 2m antennas 3pcs and R25, 1:35 scale U.S. antenna brackets 3 pcs.

And here is yet another set to spiff up your monster 1:16 scale Panther or Jagdpanther: 16020, German Medium Tank PzKpfw V Ausf. G Panther G Vol. 6 cleaning rod and spare aerial stowage.

And we've saved the best for last: 35K06, German Tank Destroyer Hetzer SdKfz 138/2 (Tamiya). This awesome set for the Tamiya Hetzer includes just about every detail item you could imagine in one box. There are four sheets of photo-etch including fenders, side skirts and all of the usual Aber nuttiness. They have also packed in some turned barrels and antennae.

For a closer look at anything Aber, go to <http://aber.net.pl/> and for ordering, visit our friends at Air Connection ([www.airconnection.on.ca](http://www.airconnection.on.ca)).



## ATAK

ATAK has a new offering that is kind of a throw-back: 35A12, Conversion for Jagdpanzer IV L/48 Late Version (Zimmerit and concrete armour), \$29.77. This resin zimmerit modification kit is actually for the old Dragon Imperial Series kit (no. 9021). We hope they apply some of their Zimmerit TLC to the new Dragon Jagdpanzer IV L/70 in the near future. If you want an alternative to applying your Zimmerit with putty, you should check these fellas out at [www.atakmodel.com.pl](http://www.atakmodel.com.pl)

## Bastion 35

We first talked about Bastion 35 back in issue 46. This is a Russian company that turns out some pretty nifty wooden diorama accessories. Their wooden bridge kits look especially tasty. Here's the stuff released since our last report: 3515, Russian Dwelling, €16.50; 3516, Vendor Kiosk, €8.50; 3517, Concrete Armoured Hood, €11.90; 3518, German All Round

MG Position "Wooden Tobruk," €16.50; 3519, German Three Gun-Port Timber-Earth MG Caponier, €19.90; 3520, Flanking Reinforced Timber-Earth Machine-Gun Half-Shelter, €16.50; 3521, Light Timber-Earth Machine-Gun Shelter, €13.30; 3522, Windmill No. 1, €29.90; 3523, Log Bridge, €9.90; 3525, Multispan Beam Bridge SH Class (for Super Heavy Loads), €12.90 and 3526, Countryside Well



## AFV Club

T-34 madness has hit at AFV Club. Last issue we reported on the clear parts set for the T34/76, and now they've done it again with the T34/85: 35S56, T-34/85 Model 1944, 1945 Production, Factory No.174, \$58.95. As usual, individual track links are being marketed separately: 35173, T-34 500mm width Cast Links (Workable), \$24.98 and 35142, T-34 550mm Stamped Links (Improved Surface), \$23.98. Word from our special agent, Deep Plastic, is that AFV club will be releasing two Factory 183 versions of the T34, as well. The last tidbit from them is an accessory for their Walker Bulldog kits: AC35001, M41 Gun Shield Cover, \$5.98.

Also, take a closer look at a few details of the latest Stryker, the M1134 ATGM (AF35134).

The latest news from Tokyo is that there are more Churchills on the way! 35154, Churchill Mk.IV and 35176, Churchill Mk.III Dieppe join the line-up. We also snagged a shot of the upcoming M5A1 Stuart Late Type.

Keeping track of everything available from AFV Club is pretty easy if you visit their website at [www.merit-intl.com](http://www.merit-intl.com)



## STRYKER

M1134 Stryker

AF35134



## ANT Miniatures

We do a lot of jaw-jackin' about all of the figure activity coming from Russia and the Ukraine lately and it looks like that's not about to change. Recently we stumbled across ANT Miniatures. They have a pretty nice range of figures in a variety of scales and themes. Their latest items in 1:35 scale are: 35-01-02, Russian Motorized Infantry, 1995-2001, €28.00; 35-05, The Soldier Of Special Troops GRU, Russia, €14.00; 35-06, Soldier of Special Force of Russian MIA, €14.00; 35-07, Officer of the Russian Spetsnaz, €14.00; 35-07, Officer of Spetsnaz of FSB, Russia, €14.00 and 35-09, Russian Grenadier 1915-17, TRA.

If you are into big figgies, the 120mm and 200mm Spetsnaz offerings will totally blow your mind! ANT Miniatures are available through Colorado Miniatures and The Michigan Toy Soldier Company here in the U.S. You can browse their offerings online at [www.ant-miniatures.ru](http://www.ant-miniatures.ru)



## Alpine

Alpine Miniatures always leaves us feeling slightly uneasy. It is wrong to want to caress a resin German? Anyway, here's a short list of some figures you will see in Mini-Men in the near future: 35087, German Panzer Commander, \$16.50; 35088, German Panzer Crew with Puppy, \$16.50; 35089, German Panzer Crew Set 2 figs, \$32.00 and 16007, A Young Grenadier, \$50.00. This last item is especially noteworthy. The 1:16 scale figures from Alpine are among the nicest we have ever seen in any scale.

The Alpine site ([www.alpineminiatures.com](http://www.alpineminiatures.com)) has shots of all of their figure sets. It's a great place to start your search for that little dude you need to complete your display.

#2, €5.90. Profiles of their kits and ordering are both available at [www.bastion35.ru/english/index.htm](http://www.bastion35.ru/english/index.htm)

## Battalion Miniatures

Those battling bastards at Battalion stay in the news with a short list of new crispy, crunchy resin soldiers: 35012, German Machine Gunners WW1; 35012 LE, German Machine Gunners WW1 (with a base); 35019, The Soviet Civil Guardsmen (without a base) and 35020, The American Soldier WW2. As you have seen in Mini-Men, this stuff is pretty good. The figure sets that come with a base are like a vignette in a box.

So far, these baddies are tough to track down in the U.S. Your best bet to get a hold of them is through the Russian website: [www.armor35.ru](http://www.armor35.ru)

## Capricorn Publications

Capricorn is a little Czech publisher that pops up in the news every once in a while. Their latest title is HB01, Czechoslovak Independent Armoured Brigade 1943-1945, €21.90. This formation of intrepid Czechs was organized and equipped by the British. They landed in Normandy in August of '44 and they contained German forces in the Dunkirk area for the remainder of the war. To find out more about Capricorn, punch up [www.capub.eu](http://www.capub.eu) and see for yourself.

## Echelon

It seems like Echelon always steps up to the plate with a new batch of totally bitchin' stuff. That's one of the reasons why we try to stick them in Short Takes so often. The list is short but sweet this time around. We found two decal sets: D356091, V100 & V150 Commando AC's of the world (Part 1), \$7.50 and D356094, LSSAH SdKfz 251/7 Ausf. Cs, \$7.50.

There were also a few mirror sets that caught our eye: M357138, Matilda (Tamiya), \$6.00; M357139, Daimler Dingo series (Miniart), \$6.00; M357140, Studebaker US6 truck (ICM), \$6.00 and M357141, SdKfz 221 (Bronco), \$6.00.

These guys have an awesome website for browsing and ordering at <http://pachome1.pacific.net.sg/~kriegsketten/>

## EGYS

EGYS has been busy with the Italian modern armor thing for a couple of months now. This really started with their concentration on Trumpeter's Centauro kit. They have branched out a bit now with a cool new conversion for an old favorite: PE35006, Italian Army VCC2 "mid version," €42.00. This is the Italian version of the M113 as used by the 5th Parachute Battalion in Lebanon in 1982.

We don't know of any U.S. source for EGYS products at this time, but you can order direct from them at [www.egysmodels.com](http://www.egysmodels.com)



## Archer

Archer Fine Transfers has been churning out tons and tons of ass-kicking dry transfer markings for years. They are pretty much the heavyweight champs of this aspect of the hobby. The latest news from them may come as quite a shock. The transfer Führer himself, Woody Vrontacek, has sent word down from on high that Archer is now producing wet transfer decals! The proper title for this line will be AFT Decals. The idea behind all of this madness is that a lot of the small markings and placards will be easier to apply as wet decals.

The first batch looks like this: AR77001B, German ammo box stencils for rifle, 20mm, 37mm and 50mm ammo boxes (Black), \$6.95; AR77001W, German ammo box stencils for rifle, 20mm, 37mm and 50mm ammo boxes (White), \$6.95; AR77002B, German ammo box stencils for 88mm ammo boxes (Black), \$6.95; AR77002W, German ammo box stencils for 88mm ammo boxes (White), \$6.95; AR77003B, German ammo box stencils for 75mm long and short ammo boxes (Black), \$6.95; AR77003W, German ammo box stencils for 75mm ammo boxes (White),

\$6.95; AR77004B, German ammo box stencils for 100mm, 105mm and 150mm ammo boxes (Black), \$6.95; AR77004W, German ammo box stencils for 100mm, 105mm and 150mm ammo boxes (White), \$6.95; AR77005B, German ammo box stencils for Nebelwerfer and Wurframen boxes (Black), \$6.95; AR77005W, German ammo box stencils for Nebelwerfer and Wurframen boxes (White), \$6.95; AR77006, Waffen SS Panzer/Panzer Grenadier division markings

Assorted WW2 German Balkencruz, \$7.95; AR77014, LAH Panther Ausf. G, Ardennes 1944, \$6.95 and AR77015, U.S. 6th Armored Division M4 (early), \$6.95.

This is not to say that Archer is calling it quits on the dry transfer thing. Not by a long shot. Here are their latest in that area: AR35305, 1970s-1980s NATO ammo crate stencils, \$5.50; AR35306, Modern ammo box stencils, \$11.95; AR35307, WW2 ammo box stencils, \$6.95; AR16017, WW2 ammo box stencils, \$7.95; AR35308, Ford GPA Jeep instruments and placards, \$7.50; AR35309, Bantam 40 BRC instruments and placards, \$8.50; AR35310, Sdkfz 251/1 instruments and placards, \$8.95 and AR35311, Sdkfz 250/10 instruments and placards, \$8.95.

Remember, there is no better way to impress the ladies than with a good collection of markings, so shop for some of this great stuff today at [www.archertransfers.com](http://www.archertransfers.com)



(Sheet A), \$6.95; AR77007, Miscellaneous U.S. vehicle interior and exterior stencils (2 Sheet Set), \$13.95; AR77008, Assorted 105mm, Compo box and British biscuit tin stencils, \$7.95; AR77009, Assorted .50-cal., 30-cal., 25pdr and 37mm box stencils, \$6.95; AR77010, Assorted Modern ammo box stencils, \$7.95; AR77011, Waffen SS Panzer/Panzer Grenadier division markings (Sheet B), \$6.95; AR77012, Miscellaneous WW2 German vehicle markings, \$7.95; AR77013,



## Bison Decals

The water-slide markings party train rolls on and on for Bison. As usual, their new releases are all over the map, with something fun for everyone. In 1:35 scale, there are two new modern Soviet sets: 35101, Soviet Tanks in Afghanistan, \$14.99 and 35102, Soviet VDV/Airborne Troops in Afghanistan, \$14.99. They have also coordinated with the folks that brought us the wonderful little book, *Under the Gun I: Panzers in the Bocage* to turn out sheets with the same namesake: 35103, Panzers in the Bocage (1), \$14.99 and 35104, Panzers in the Bocage (2), \$14.99.

Some reprints in 1:35 scale have popped up, too: 35072, Berlin '45, \$14.99; 35076, Panther Mix #2, Late Ausf. G and Befehlspanther Ausf. G, \$14.99 and 35078, Opel Blitz, \$14.99.

To round things out, here are their latest offerings in other scales: 48005, Panther Ausf. G (late production), TBA; 72023, Opel Blitz, TBA; 72024, Panzers in the Bocage, TBA and 72025, U.S. Sherman in NW Europe 1945, TBA.



To get an excellent profile of any of Bison's offerings, surf on over to [www.angelfire.com/pro/bison/](http://www.angelfire.com/pro/bison/). The best place we've seen to shop in the States is Tankrats AFV Depot ([www.tankratsafvdepot.com](http://www.tankratsafvdepot.com)).

## Gaso.line

Good ol' Olivier has announced some more very nice stuff for the ever-expanding range of 1:48 scale armor. Here's a list of the latest: 48080K, Conversion Sdkfz 250/1 (Tamiya), €5.02; 50003K, sWS, €34.28; 50008K, 88mm PaK 43/41, €16.72; 50126K, Soviet amphibian scout car BRDM-2, €35.12; 50129K, Staghound, €32.61; 50131K, Semovente 75/18, €30.10; 50135K, Stuart M5A1, €30.10; 50177K, Half-track leSPW U304(f) 37mm PaK 36, €30.10; 50183K, German 15cm sFH 13/1 auf Geschützwagen Lorraine-S (f) Sdkfz 135/1, €30.10; 50197K, British light tank Stuart Honey, €31.77; 50201K, sWS w/ Nebelwerfer launchers 15cm Panzerwerfer 42, €34.78; 50203K, VAB 4x4 TOP Afghanistan 2009, €32.61; 50204K, Renault heavy armoured car Sherpa 3 GV, €28.43; 50389, French crew for 75mm anti-tank gun Schneider, €10.03 and 50710K, Peugeot P4 blind(c) (Conversion Solido), €14.21.

You can shop for these and so much more at [www.quarter-kit.com](http://www.quarter-kit.com). Just remember to check and see if they are full resin kits, die-cast metal models or detailing and conversion sets for existing injected molded kits from the likes of Tamiya.

## Hard Corps Models

Water Buffalos are just like busses—you wait forever for one to come along, then all of a sudden three turn up at once! Perfect for creating that Southeast Asian paddy field or Pacific Island diorama, we have 35008, Running Water Buffalo, \$18.95; 35009, Walking Water Buffalo, \$18.95 and 35010, Standing Water Buffalo, \$18.95. We are pleased to let you know that we have checked the our extensive water



# Great models, late nights, liquor and laughter—that's Euro Militaire 2009

**A**s I mentioned in my editorial, I spent the 19th and 20th of September in the lovely seaside town of Folkestone, Kent for Euro Militaire. This is the show's 24th year, and it has earned the reputation of being the premier armor and figure modeling show in the world. Modelers come from all over to enter their latest masterpieces in this prestigious show, hoping to win a coveted gold medal or even the ultimate accolade—Best of Show.

I always have a great time at Euro, even if alcohol has made some of the memories a little fuzzy! As usual, my modeling buddies turned up in force, entering an outstanding display of models and filling the stands of the various model clubs. This year there was even a 10-minute fly-by from a World War Two Mk 9 Spitfire, complete with invasion stripes and arguably the most evocative internal combustion engine sound in the world.

Another noteworthy event this year was when the guys from my local model club and I dragged Mig Production's Adam Wilder to what was possibly the seediest pub in England and didn't return him to his

hotel until 3:30 in the morning—Adam, if you're reading this, my deepest apologies! Well, at least he got down to some serious modulation on the dance floor in front of some very scary-looking ladies!

But I digress. Back to the show! Unfortunately, a few of the most prominent vendors were for various reasons unable to attend this year. Two in particular, Accurate Armour and Resicast, have always been steadfastly reliable when it comes to releasing great new products at Euro. To be honest, there wasn't too much in the way of new vehicles or detailing sets, but there were some notable exceptions. Cromwell displayed their awesome Mastiff/Cougar 6x6 MRAP with full slat armor, which amazingly is cast in scale thickness resin—absolutely stunning. Cromwell also had on display some various updates for the AFV Club Churchill kit and the master pattern of the cool-looking 4x4 MRAP, which should be available by the end of the year.

DES Kit and Azimut both had some really cool updates and correction sets for Tamiya's 1:35 Citroën 2CV car. From Azimut, there were corrected radiator grilles, detailed engine, transmission and front axles and some interior fittings. DES

had a very nice general detailing set, complete with accurately patterned seats and a bunch of smaller parts to enhance the overly simplified kit, as well as a set of the crazy-looking roof-mounted cylinders for a compressed gas powered version of the vehicle. DES is working on new floor pan to replace the Tamiya's incorrect part.

Figure modelers, on the other hand, had plenty of new figures to choose from. The 120mm British Paratrooper from Arnhem was one highlight. This guy absolutely captures the look of these heroes as they defended the town against overwhelming odds, long after they expected to be relieved by XXX Corps.

In keeping with the British theme, Spearhead Models released a number of 1:35 scale British WW2 infantry and tank crew sets sculpted by Pete Morton. These looked amazing and are perfectly timed to correspond with the recent resurgence of British armor kits.

I'm already counting down the days to next year's special 25th anniversary show, which I'm sure will be an event not to be missed.



**1.** Not just any model show can have a genuine Panther Ausf. A parked outside! This impressive display was courtesy of the Cadman brothers, hosts of the world-famous War and Peace military vehicle extravaganza. **2** and **3.** Cromwell's amazing full resin kit of Cougar MRAP complete with slat armor. Also on display was an AFV Club Churchill Mk III AVRE showing off a number of their detailing and conversion sets, including a new resin Mk IV cast turret, a Bullhorn mine-plot conversion, a deep wading set and replacement tracks, all of which are very nice indeed. **4.** On the Azimut stand was this comprehensive conversion set to turn the Hobby Boss V-100 into the U.S. Air Force XM706E2. **5.** The latest release from the Best Value Models line on the Azimut stand was this IDF-based BTR-50 Tsalahal conversion for the Trumpeter PT-76 kit. **6.** The new Tamiya Citroën has certainly become a hot item for the French manufacturers' detail and correction sets. Here you can see the Azimut replacement grille, front axle and engine and transmission correction set. **7.** While we're on the subject of Tamiya's 1:35 Citroën, take a look at this general detailing set from DES Kit. This set offers improved seats, foot pedals, steering wheel, shock absorbers and a bunch of smaller fixtures and fittings. **8.** Friendship Models of Scotland showed off this really nice 120mm British WW2 Paratrooper Sergeant. I'm not



usually one for figure painting (only because I'm crap at it) but this one really gives me the inspiration to give it another go.



## Blast Models

Blast Models has been busy chewing on some modern French Army subjects to good effect. The biggest news is their revision of their excellent VAB update kit made for the rather lackluster Heller offering: **35006K, VAB New Generation II - Limited Reissue 2009, €97.83.**

Like Azimut, Blast has taken a liking to the Revell Wolf kit and produced a second version of

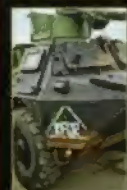
the P4: **35148K, French Army P4 P Protected Afghanistan (Revell), €28.01.** This kit is about the same as the P4 we profiled in issue 48, but includes an anti-IED system. The anti-IED system is also available as a separate set: **35149K, French Army P4 Counter IED System - Limited Edition, €6.69.**

All things Blast are on the web at [www.blast-models.com](http://www.blast-models.com)

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**BL35006K**

Conversion révisé pour VAB Heller - non inclus  
Revis conversion for Heller VAB - not included



BL35148K  
PANHARD P4 P PROTEGEE  
AFGHANISTAN  
(conv Wolf Revell)

## Bronco

Once again, Bronco gets a gold star on the fridge for their original thinking. The announcement of **CB35040, Chinese PLA ZTZ99A1 Main Battle Tank** raised eyebrows all over the office and we hope to bring you a review of the kit in the near future. Other news from Bronco includes a car kit along with some other nifty looking treats: **CB35047, German Opel Light Staff Car 'Stabswagen' Mod.1937 (Cabriolet); CB35028, Canadian 40mm Bofors AA Gun and CB35033, SdKfz 221 Leichter Panzerspahwagen (sPzB 41).**

Word on the street is that Bronco will be doing some serious work with new track sets too. Look at this list: **AB3522, M1A1/M1A2 MBT**

**Workable Track Link Set; AB3523, Challenger 2 MBT workable track link set; AB3524, AS90 SPG Workable Track Link Set; AB3525, Leclerc MBT Workable Track Link Set; AB3526, PZH2000 SPG Workable Track Link Set; AB3527, Ariete MBT Workable Track**

**Link Set; AB3528, Leopard 2 Workable Track Link Set; A B 3 5 2 9, M-48A5/M60A3 MBT T-142 Workable Track Link Set; AB3531, Matilda Mk II T.D.5910 Type Workable Track Link Set (Tamiya) and A B 3 5 3 2, Matilda Mk II Flat**

**Type Workable Track Link Set. Leaves you kinda breathless with anticipation, huh?**

Bronco can be found at good hobby shops everywhere. Their home page is at [www.bronco-model.com](http://www.bronco-model.com)

## CANADIAN 40MM BOFORS ANTI-AIRCRAFT GUN

加拿大博福斯40毫米防空炮

CB35028 1/35



tooling. Tamiya's aging version, even with the recent addition of a turned aluminum gun barrel and photo-etch anti-grenade screen, definitely needs to call it a day and buy a retirement condo in Florida. Thankfully Hobby Boss has come to our rescue with **82442, SdKfz 222 Leichter Panzerspahwagen 2cm.** This completely new kit has full interior detailing, including an engine and transmission. Look for a full build feature soon. In the meantime, feast your eyes at [www.hobbyboss.com](http://www.hobbyboss.com)

## Hussar

Hurrah for Hussar! They have become the leader in replacement wheels for just about every vehicle kit that either contains those nasty vinyl tires that have a tendency to split or crack over time, or is just in need of better-detailed or different-patterned tread to suit your needs. Their recent releases include: **35079,**

## The Bodi

Those Hungarian figure-meisters have just two new items this time around: **35008, British Headset, \$13.50** and **35009, British Officer, \$17.00.** The British officer is a very nice small vignette and comes with a choice of heads. A cool TBA is **35012, Hungarian Panzer officer.** As usual, Kristian Bodi himself sculpts all the offerings and they look nice and crisp. You can find these guys in the U.S. at Colorado Miniatures and Military Miniatures Warehouse, or order direct at [www.thebodi.eu](http://www.thebodi.eu)



## Bravo 6

Nobody covers figure subjects from the Vietnam War quite like Bravo 6. We really love these guys. They started off really strong with those U.S. infantry types and have branched out to portray other personnel from the conflict with equal fidelity and finesse. **35012, U.S. AFV Crewman Vietnam '68, \$39.99** is a two-figure set that includes a driver and commander for your M113 ACAV. The Australian SAS gets another member with **35019, Australian SAS "Jungle Make Up" Vietnam '68, \$39.99,** and the VC get a sharpshooter with **35021, Vietcong Sniper (Main Forces), \$17.99.**

You can keep up with all of this madness at <http://bravo6.diorama.ru/>. Shop for Bravo 6 at the Military Miniatures Warehouse.



SCALE 1:35

buffalo reference collection and these specimens are applicable from WW2 to the present day, making them very versatile with no need to obtain costly aftermarket conversion sets.

Also from Hard Corps, we have three of those hideous flying, squawking, crapping machines known as Seagulls: **35011, Seagulls, \$10.95.** Gordon Stronach has done a great job of recreating them in 1:35 scale, so much so that we want to get some just to stick pins in them while chanting voodoo spells. These little avian vandals are perfect for the corner of your latest aquatic seaside diorama.

You can check out Hard Corps on the web at [www.hardcorpsmodels.com](http://www.hardcorpsmodels.com)

## Hobby Boss

The "treble-two" is a very cool-looking vehicle, and it's a long overdue subject for a kit with modern

**Chevy 15 CWT Sand Tires; 35080, Citroën 11CV; 35081, URAL-375/4320; 35082, BTR-70; 35083, 105mm Howitzer M2A1 (Dragon); 35084, Daimler Dingo Type 1 and 35085, Daimler Dingo Type 2.**

Always superbly cast, Hussar wheels offer a genuine improvement over the wheels that they are designed to replace. You can buy them online from [www.airconnection.on.ca](http://www.airconnection.on.ca)



## Dragon

The Big D has been blowing our doors off the last couple of months with all the variants of their base kits. They are now on their fourth "Committed to the Modeler" campaign.

The list this time around is a little shorter than usual, but there's lots of tasty styrene here: 6564, T-34/76 Mod. 1943 w/ Commander Cupola No.183 Factory, TBA; 6487, T-34/76 Mod. 1942 "Formochka," \$43.95; 6500, SdKfz 166 StuPz IV 'Brummbär' Mid Production w/ Zimmerit, TBA; 6519, German Wiking Division Kovel 1944, \$10.95; 6520, SdKfz 167 StuG IV Early Production, \$49.95; 6522, PaK 43/3 L71 mit Behelfslafette (Smart Kit), \$41.50 and 6561, Ersatz M10, \$49.95.

Dragon continue to make life easier by saving us all that messy and time-consuming fuss of

adding our own Zimmerit, as many of their recent late-war German armor kits now come with it in situ. The latest in this line is the Mid Production Sturmpanzer IV Brummbär, which just has to have a full coat of the zimmy. The last of the German releases on this list has been a long time coming. We've been hearing rumors about it for years, and at last the waiting is over: we actually have a state-of-the-art injection molded Ersatz M10 Panther. How cool does this thing look? The kit comes with extra turret panels with Dragon's new "Razor Edge" scale thickness plates. Other highlights include optional style "fake" mantlet, glacis and side skirt parts. Look for a full review coming soon.

Russian armor fans are in for a treat with two

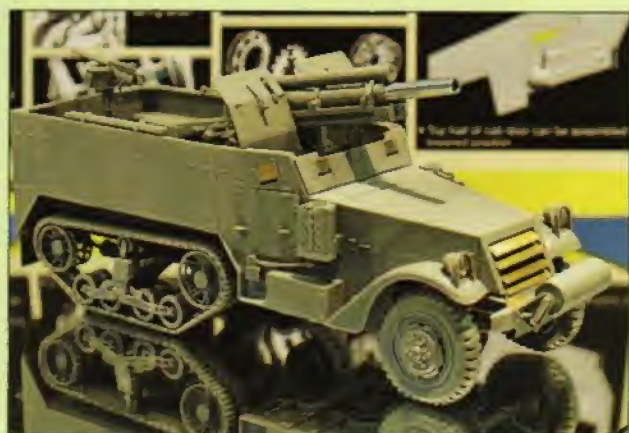
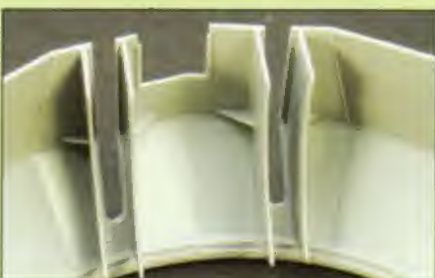
new releases of the T-34. All the usual additions accompany these, such as Magic Tracks, slide mold barrels and the option of photo-etch or injection plastic main engine-deck grille.

There are also two new Cyber Hobby kits and one Orange Box addition: CY6270, SdKfz 138/1 Geschützwagen 38 H für sIG 33/1 Initial Production Orange Box, \$41.99; CY6587, PzKpw III (5cm KwK 39 L/60) Ausf. L Tp (Smart Kit) and 9111, PzKpfw III Ausf. E/F, \$29.95.

Also, won't you please enjoy a few sprue shots of previously announced kits?

Late breaking news from Tokyo is that 6496, T19 105mm Howitzer Motor Carriage will be out soon!

The Dragon Models website ([www.dragon-models.com](http://www.dragon-models.com)) is one of the best in the hobby and a perfect way to waste a few hours recovering from glue fumes.





## Dioramas Plus

Dioramas Plus has added another fine new addition to their line of diorama structures and accessories: **DP15, French Bakery**, \$49.95. Unlike most diorama buildings, this is a fully intact building and includes laser cut wood doors, shutters, roof shingles, window



glass and a sidewalk along with other small trimmings. The best place to find this and other products from this company is on the web at [www.dioramasplus.com](http://www.dioramasplus.com)

## K59

Got one of Dragon's superb M3 half-tracks and have the urge to put your mark on it with a couple of personal touches? K59 has recently released some detail sets that will satisfy even the pickiest among you.

First up is **C-015, M2HB**, two beautifully cast and detailed resin and photo-etch M2 .50-caliber machine guns and mountings. These blow the socks off of even Dragon's latest "fifties" when it comes to quality. The second release, **C-016, M3 bogie (late production)**, is a set of new suspension bogies, which feature late-production details such as casting numbers and the oval-shaped holes missing

## Dreammodel

Like a lot of Asian accessory companies, Dreammodel has kinda come out of nowhere. They specialize in photo-etch brass sets. Most of their lineup is aviation-oriented, but they have been paying attention to what the boys at Hobby Boss are doing. Their first armor-related release is **8001, ZLC2000 Airborne IFV Grade Up set (Hobby Boss)**. There are also some pictures on their website of a set for the Hobby Boss Type 99, which we hope to see more of in the near future. If you want to learn more, go to [www.dreammodel.com.cn](http://www.dreammodel.com.cn)



## Editions Du Barbotin

Well, they've gone and done it once more! Editions du Barbotin may be a small company, but their books on French armor are the bomb. No one in recent years has bothered to do a good reference on the **FT-17**, so we were ecstatic to see this one come through the door: **Trackstory N°10 Renault FT 17 light tank**, €14.50. Look for a more complete profile in issue 50.

To get a rundown on all available titles, go to [www.minitracks.fr](http://www.minitracks.fr)



out and folded to produce authentic scale boxes for your latest "Vietnam Track:" **PA-VB01, Various boxes no.1**, €3.95; **PA-VB02, Various boxes no.2**, €3.95 and **PA-VP05, Vietnam posters no. 5**, €3.95.

We also have **PA-AS01, Australian stuff no.1**, €3.95, a sheet dedicated to Aussie signs, boxes, magazines and area of operations maps specific to the Australians. How cool is that?

Get your virtual Mec fix at [www.mecmodels.com](http://www.mecmodels.com)—almost as good as the real thing.

## Miniarm

Miniarm is a Russian company hailing from the beautiful city of St. Petersburg and specializing in really cool upgrades and conversion parts for WW2 and modern Russian armor. Their sets range from simple direct replacement wheels right up to very comprehensive update sets for the T-64 and T-72. Some of their latest are **B35035, T-72A Turret "Dolly Parton" 1982**; **B35036, T-34 Hexagonal Turret with cupola** and **B35037, T-34, SU-85 Spider web wheels with perforated tires**.

Miniarm also has some very nice 1:35 scale Soviet and German WW2 resin figures. Check out **F35001, Soviet assault group '44-'45**, \$14.95; **F35002, Soviet assault group '44-'45**, \$14.95; **F35003, Soviet assault group '44-'45**, \$14.95; **F35004, Soviet assault group '44-'45**, \$14.95; **F35005, German soldier '41-'43, TBA** and **F35006, German soldier '41-'43, TBA**. Just like the vehicle sets, these are superbly produced, beautifully cast and have oodles of character.

from the earlier versions.

If you want to go to town on your M3, make sure you stop by K59 at [www.k59.hk/main.html](http://www.k59.hk/main.html)

## Mec Models

Mec Models is a small company from Holland that's making a name for itself with some great decals and printed accessories for the Vietnam era. This month we have two sets containing loads of various period cardboard boxes, which simply need to be cut

## Eduard

Eduard has been concentrating a lot of energy on aviation subjects lately, so the armor list seems a little shorter this time. However, there really is no reason to break down in tears. The sets they have been turning out for our little niche are lookin' pretty good.

For instance, the two new Big Ed supersets are nothing to shake a stick at: **BIG3558, SdKfz 7 Zugkraftwagen 8t (Trumpeter)**, \$54.95 and **BIG3559, M-2 Half Track (Dragon)**, \$49.95.

There is also a nice mix of subjects in their normal brass lineup: **36074, LAV AD (Trumpeter)**, \$24.95; **36082, Pz IV Ausf. D 75mm KwK 40/L43 (Dragon)**, \$29.95; **36083, M3 Half Track**



**(Dragon)**, \$29.95; **36087, ASLAV-25 RV (Trumpeter)**, \$34.95 and **36088, M-3 Half Track engine (Dragon)**, \$22.95.

Last but not least, there is one new Eduard Mask release: **XT153, M-1078 LMTV (Trumpeter)**, \$12.95.



One of the nicest things about Eduard is that they are easy to find at almost any good hobby shop. If you want to get a close-up look at what you are ordering, stop by [www.eduard.cz](http://www.eduard.cz), where there is a complete profile on each and every set in the catalogue.



## ET Model

ET Model is yet another Chinese company that seems to have just sprung up out of the ground. We stumbled across their website (<http://etmodel.blogbus.com/>) quite by accident one day. Their catalogue is small so far, but has a nice mix to it and includes both photo-etch brass sets and resin wheels. Here is a list of what we saw in 1:35 scale: EA35-004, German PzKpfw 38(t) Fender; EA35-002, German PzKpfw 38(t) Ausf. B/E/F/G Fender; E35-001, WW2 British Scout Car Dingo Mk II (Tamiya); E35-003, VRC-105 Spanish Army VRC-105 Centauro; E35-004, WW2 German Flakpanzer IV Möbelwagen; E35-006, B1 Italian ET-Centauro B1 Centauro Tank Destroyer; E35-007, WW2 German PzKpfw I Ausf. B 15cm "Bison"; E35-016, WW2 German 15cm sIG 33 Infantry Gun; ER35-001, "Centauro" Tank Destroyer Weighted Road Wheels and ER35-002, M1078 Modern U.S. M1078 LMTV Weighted Road Wheels. There are some 1:72 scale sets there too: E72-001, Modern USMC AAVP7A1; E72-002, Modern German Leopard 2 A5; E72-003, WW2 German Tiger I Late Production; E72-004, WW2 German King Tiger; and E72-005, WW2 Soviet T-34/76 Mod. 1941.

The website has some very nice full color photos of these sets in action. You may want to contact them directly to find out how to obtain their products.



If you dig Ruskie armor, then do yourself a favor and check out the "coming soon" section of the Miniarm website ([www.miniarm.com](http://www.miniarm.com)). We guarantee you will love what they have planned.

## Monroe Perdu

Problem: you're desperate to build a Panther G with Zimmerit, but all you have is of the older kits that don't come with the stuff and you're not willing to spend your kids' inheritance on one of the newer releases.

Solution: Monroe Perdu's MPD 057, Zimmerit for Dragon/Cyber Hobby Panther G kit, \$22.00.

That's right, there is a cheap, easy-to-use and very effective way reproduce this tricky coating. Made from thin laser-cut card, Monroe Perdu's Zimmerit can be fixed in place using regular PVA glues, which as you know give you plenty of time to fit each panel before drying. This set is extremely user-friendly and will produce excellent results.

Best of all, you can order direct from the manufacturer at [www.monroeperdu.com](http://www.monroeperdu.com)

## MK35

This little French company always has something new to offer in the way of figgies and diorama accessories. We especially like these guys for their civilians and animals. For now, we'll just glance at the new stuff: A085, Entrance of Farm in Normandy, €26.00; VB07, Section of Street, €12.50; F110-01, Resin Bust SS Soldier Commando Skorzeny Company Ardennes 1944-45, €20.00; F43-29, Locomotive driver having a piss, €6.20; F195, Civilian with a hand on his head, €9.00; F200, Man washing his feet in a wash tub, €12.00; F202, Mule Jenny, €15.00 and F203, Woman farmer with 2 hand baskets, €12.00.

Go to their website ([www.mk35.com](http://www.mk35.com)) to get a better idea of what MK35 has to offer.

## Evolution

Evolution's little guys are full of character, from their poses to their faces. This company obviously puts a lot of thought into their figures, with their unusual choice of subjects and the high quality of the sculpting and casting (you gotta dig those training shoes on the Soviet Sniper).

Here are the latest cast members: 35017, American Infantryman - Vietnam, \$17.99; 35018, German

Machine Gunners WW2, \$34.99; 35019, Soviet Sniper of Special Troops - Afghanistan 1979-1989, \$17.99; 35020, Soviet Guerillas WW2, \$49.99; 35021, Captain, 1 Detachment SAS, North Africa 1942, \$17.99; 35022, Soviet Commando - Afghanistan 1988, \$17.99 and 54003, Stalker, \$22.99.

As soon as we saw these, our minds instantly started to conjure up diorama ideas—which is probably exactly what the guys at Evolution are hoping for. Visit them online at [www.evolution-miniatures.com](http://www.evolution-miniatures.com), and shop till you drop at [www.historicabooks.com](http://www.historicabooks.com) and [www.milminwh.com](http://www.milminwh.com)



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Humvee instruments and placards		
1/35	AR35282	\$12.95
US/Allied instruments and placards		
1/35	AR35209B (instruments)	\$8.95
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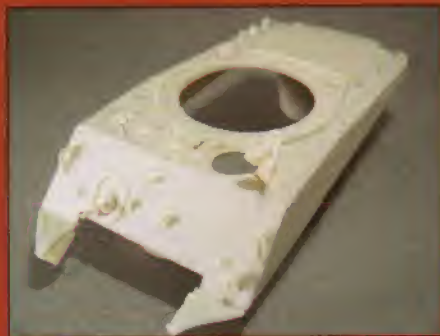
24 hour FAX/VOICE MAIL: (919) 570-1026

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## Formations

As you probably know, we are hopeless Shermanaholics, so naturally when we build one we want it to be right. This makes us big fans of Formations. If you need an updated, corrected or conversion part for the good old Sherman, then this



the place to go. Everything is always flawlessly cast and perfectly detailed.

Check out these goodies: F023, Round Air Cleaners for Radial Engine Shermans (2 styles), \$7.00; F071, M4 105 Conversion, \$37.00; F099, Late Armored Exhaust Deflector for M4A3 Sherman, \$8.00; F111, Final Produc-

tion M4A3 Sherman Upper Hull, \$35.00; F112, 76mm T23 Sherman Turret with Oval Loader's Hatch, \$25.00 and F113, 75mm Sherman M34 Gun Mount with Metal Barrel, \$13.00.

Go to [www.formationsmodels.com](http://www.formationsmodels.com), where your dream M4 is only a few clicks away.



## ICM

From Russia with love, we have "the only accurate plastic figures of soviet '70-'80's tankers." Well, that's ICM's line and they're sticking to it. Whether it's true or not is up for debate, but what's not is that their timing is perfect. 35601, Soviet Tank Crew 1979-1988, \$11.95 is the ticket for Trumpeter's new T-62.



The big news from ICM, though, is 35512, BM-13-16N, \$59.95, a full kit of the Studebaker-mounted "Katyusha" rocket launcher. It is the first injection-molded kit on the subject, and on initial inspection it looks pretty darn good. We, for one, can't wait to build it!

ICM is online at [www.icm.com.ua/en/](http://www.icm.com.ua/en/)

## Orange Hobby

Orange Hobby has been turning out a slew of interesting brass products. As you can see by this list, they have been paying a lot of attention to the good old Panzer IV, along with some other much-loved subjects: G35-027-128, T-34/76 Model 1942 (AFV Club); G35-028, T-34/76 additional armor plates (AFV Club); G35-029, WW2 German Panzer IV H/J additional armor plates (Dragon); G35-030, WW2 German Panzer IV H/J fender (Dragon); G35-031, WW2 German Panzer IV H update parts (Dragon); G35-032, T-34/76 track snow cleats; G35-033, WW2 German Panzer IV air filters; G35-034, Turret top spaced armor for Panzer IV late versions; G35-035, ZLC-2000 airborne tanks cannon barrel (HobbyBoss); G35-036, U.S. military vehicles of World War II general spring antenna; G35-037, U.S. M36 machine gun fire fighting vehicles tower; G35-038, Steel cable (Panzer III, IV); G35-039,

## Italeri

Unsurprisingly, Italian manufacturer Italeri is having a bit of a run on Italian tanks. The latest on that theme is 6476, Carro Armato P40. The P40 was the last Italian tank design of WW2, and it saw a fair amount of service with the Germans after the Italians opted to come over to the good guys' side. The parts are all nicely molded in sand-colored plastic. Also included are a turned aluminum barrel, a small photo-etch fret and decals for four vehicles. One those neat little photographic reference manuals is thrown in for good measure. Keep an eye out for Mike Rinaldi's P40 article in a future issue.

You can browse Italeri's catalogue at [www.italeri.com](http://www.italeri.com). Kits are available for sale at any hobby shop, or online from Model Rectifier Corporation ([www.modelrec.com](http://www.modelrec.com)).



## Kamizukuri

Laser cut paper plants and accessories are the name of the game at Kamizukuri. They specialize in making teeny paper plants to add color and life to your dioramas. There are two new additions to their lineup: A-30, Construction Accessories A,



37mm gun six rounds of ammunition clips and shells (Flak 36/37) and G35-041, WW2 German Panzer IV Turret additional armor.

Since the ordering section of the website ([www.orangehobby.com](http://www.orangehobby.com)) is in Chinese, we recommend using a search engine with a translator function (we like Google's) to help you navigate.

## Perfect Scale Modellbau

Perfect Scale has long been known for their

Y600 and A-31, Coconut Palm, Y1330.

If your latest projects are crying out for some foliage, look 'em up at their homepage ([www.kamizukuri.jp](http://www.kamizukuri.jp)) or at Tasca's site: ([www.tasca-modellismo.com/english/eshop-main.html](http://www.tasca-modellismo.com/english/eshop-main.html)).



badass modern resin products. Lately, they have taken to Bundeswehr subjects with a vengeance and all we can say is, "Wow!"

They've recently turned out a full kit of the recovery version of the Leopard 2: 35051, Leopard 2 ARV "Büffel," €193.95. Not only that, but they have one with an interior: 35050, Leopard 2 ARV "Büffel" with interior, €214.95.

You really have to go to [www.perfect-scale.com](http://www.perfect-scale.com) and check this out for yourself.

(text continued on page 21)



## Lion Roar/Great Wall

In the last issue, we told you about the cool new stuff coming out under the Great Wall label. This time around we have a bit of a closer look at the sWS 60cm Infrared Searchlight Carrier "UHU" (L3511) thanks to the lensmanship of Spud.

As you'd expect, a 3.7cm anti-aircraft version of the halftrack has been announced in Tokyo. As the gun has been around for a few months, this combination is not a huge surprise. However, it is most welcome and we eagerly anticipate its arrival. We have no word on U.S. retail or availability, but we will report that information as soon as it becomes available. We'll also make sure that Spud gets a crack at it with his camera!

For an up-to-the-minute look at what these cats are up to, see the website of their primary U.S. distributor, Dragon USA, at [www.dragonmodelsusa.com](http://www.dragonmodelsusa.com)

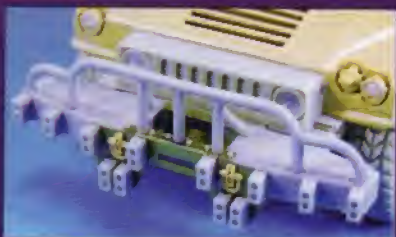


## Legend from Korea

We love these guys! Whether you want to modify any modern Coalition vehicle to the latest specifications as seen in Iraq or Afghanistan or hang a ton of stowage on your latest WW2 project, Legend is bound to have an update or conversion for you.



Here's the latest: 1190, U.S. M3A1 Half-track Stowage set, \$48.99; 1191, U.S. AFV ECM Antenna set, \$14.99; 1192, Humvee O-GPK set, \$29.99; 1193, Humvee Interior set (Tamiya), \$29.99; 1194, M1151 Humvee Conversion set (Tamiya), \$125.99; 1195, Humvee IBIS Tek Bumper & Tow Bar set, TBA; 1196, Humvee GPK set, TBA; 1197,



AT4 & LAW set (5ea), TBA; 1198, AS-LAV Wheel set (Sagged), TBA; 1199, U.S. LAV Wheel set (Sagged), TBA; 1200, AS-LAV Update set, TBA and F0117, U.S. OIF Soldier at rest, \$12.99.

In our eyes, Legend truly lives up to their name—check out just how much stowage you



get in the M3 set. The AS-LAV detailing set even has "Skippy" the bush Kangaroo! Legend's website is [www.legends.co.kr](http://www.legends.co.kr), and their line is available for sale at [www.squadron.com](http://www.squadron.com)

## MiniArt

These guys are really on a mission to give us everything we could ever need for our latest diorama projects. From the vac-formed buildings and "dioramas in a box" to the imaginative figure sets and accessories, MiniArt really puts a lot of thought into their products and our hobby is so much the better for it.

This installment of Short Takes welcomes the following additions to the MiniArt family: 35060, Soviet Infantry Ammo Boxes, TBA; 35076, Soviet 152mm Ammunition, TBA; 35079, Soviet 85mm Shells with Ammo Boxes, TBA; 35082, Leichter PzKmpf Mk I 202(E) w/ Crew; 35086, German Civilians, TBA; 35087 Dingo Mk I, TBA; 35535, Farm Entrance With Wall, TBA; 35536, Ruined Building, TBA; 36035, Wall With Base, \$22.95; 36034, Farm Gate With Base, \$22.95 and 72017, Ruined Building, \$9.95.

If you're not sure how good these vac-formed buildings look, then check out the one in our cover story article. We think that's

## SOVIET 152-mm AMMUNITION

UNASSEMBLED PLASTIC MODEL, SET CONTAINS 120 PARTS. BOX CONTAINS MODELS OF 152 AMMO BOXES WITH SHELLS



35076  
1:35



convincing enough, but the skeptics among you can see more at [www.miniart-models.com](http://www.miniart-models.com)

## SOVIET 85-mm SHELLS w/AMMO BOXES

UNASSEMBLED PLASTIC MODEL, SET CONTAINS 120 PARTS. BOX CONTAINS MODELS OF 85 AMMO BOXES WITH SHELLS



35079  
1:35





### Miniman Factory

Need a ride for a Bradley or one of those new D9 armored dozers? Thanks to the Miniman Factory, you have a couple of excellent options: MMF35007, M916 6x6 LET Tractor (for M870A1), €136.00 and MMF35008, M870A1 40t low-bed trailer, €98.00. These are worth every penny.

You can see these and so much more at [www.minimanfactory.com](http://www.minimanfactory.com)



### Neograde

Neograde has a varied range of conversions, detailing and accessory sets to please fans of both Allied and German armor. Here are some of their newest goodies: DA-0010, Sidewalk, \$20.00; DA-0011, Bottle Box, \$20.00; DA-0012, Red Bricks, \$10.00; DA-0015, U.S. Template,



\$10.00; DA-0016, Steel Plank Landing Mat, \$15.00; DA-0017, Hedgehog, \$12.00; DA-0018, The bridge-building (German mechanic), \$30.00; TO-0016, France M4A2 Zimmerit Test Type, \$30.00; TO-0017, M3/M4 The Allied Forces Camouflaged Tank, \$40.00; TA-0014,

King Tiger 88mm Ammunitions, \$20.00; TA-0015, German 20mm Flak, \$20.00; TA-0016, German 20mm Flak Ammunitions, \$25.00;



TTA-0019, King Tiger 88mm Ammunitions Box Set, \$25.00; TA-0020, German 88mm Flak 18 Ammunitions & Box Set, \$42.00; TA-0021, German 88mm Flak 18 Ammunitions Box Set, \$25.00; TA-0024, Panther Accessory, \$35.00; TA-0025, Panther Accessory II, \$40.00 and TA-0026, U.S. M-10 Accessory, \$35.00.

Checkout the Neograde website ([www.neograde.net](http://www.neograde.net)), where we are sure you will find something that is crying out to be your next project.

### Panzerwrecks

In the newest installment in this widely acclaimed series, we are transported to sunny Italy. **Panzerwrecks 9**, \$29.95 is packed with all the goodness you expect from these guys.



We will take a closer look at this volume in the next book reviews section. In the meantime, go to [www.panzerwrecks.com](http://www.panzerwrecks.com) for more information and ordering.

### Plus Model

The accessories from Plus Model will have your buddies asking, "Where'd you get that from?" They always have some new accessories and conversions that are truly unique. Here are the latest: 311, U.S. Army field ration K, \$7.00; 329, Meeting on promenade, \$13.40; 335, Blacksmithery, \$23.90 and 339, Japan wireless station model 94-3A, \$15.00.

This stuff can be hard to find sometimes, so we recommend you shop at their homepage, [www.plusmodel.cz](http://www.plusmodel.cz)



### Pro Art Models

Pro Art from Belgium is always a treat. The quality is high and the subject matter is timely. Lately, they have turned their attention to the Trumpeter LMTV with 35030, Realistic sagged tyres for M1078 (LMTV), €15.00 and 35031, Upgrade detail set for M1078 (LMTV), €49.00. Order your stuff direct at <http://www.proartmodels.be/modelbuilding.htm>





## Royal Model

Royal has turned out some brand spankin' new dio accessories and figgies that have us jumping for joy.

Take a look for yourself:

569, Italian Building, €59.00; 570, Italian Sidewalk, €9.00; 571, Italian Road Section, €15.00; 573, Civilian Man with Children (WW2),

€20.00; 575, Park Bench, €9.00; 581, Lamp on Wall, €9.00; 583, Mk III "Clive" crew WW2, €28.00; 589, Italian Infantryman and Officer Russia 1943, €24.00; 593, U-Boat Sea Man, €12.00; 618, German damaged oil drums, TBA and 619, Tenente e Marescaillo dei Cavalleggeri di Lodi, TBA. Keep an eye out for some of these figures in the Mini-Men section.

To keep track of this great little company, pay a visit to [www.royalmodel.com](http://www.royalmodel.com)



## Tank from Russia

We are really excited about the stuff that Tank from Russia has been churning out. You will continue to see a lot of these little buggers in Mini-Men, but we think a sneak preview is in order, so here you go: T-35108, German tank crew for Pz III and Pz IV, summer 1939-45; T-35109, Red Army scouts III, summer 1943-45; T-351110, Soviet officers, tankman and infantryman, summer 1941-45; T-35111, Soviet "Maxim" M.G. crew, summer-winter 1943-45 and T-351112, Soviet "Degtiarev" M.G. crew, Stalingrad, summer 1943.



This little Russian company now also produces specialized decals for 1:35 scale figures: D-35002, Decal for German helmets (SS); D-35003, Decal for German helmets (Luftwaffe); D-35004, Russian Infantry emblems (modern); D-35005, Russian Parachute trooper (VDV); D-35006, Russian Police special forces (MVD); D-35007, Russian Marines infantry; D-35008, "Telayashka" (VDV) (Undershirt); D-35009, "Telayashka" (Marines) (Undershirt) and D-35010, "Telayashka" (Black) (Undershirt).

Tank from Russia products are available from a couple of different sources in the U.S., such as The Red Lancers and Colorado Miniatures. To see everything go to [www.tank-model.ru](http://www.tank-model.ru)

## Tamiya

Tamiya is releasing a JSU-152! How about that? Whenever a kit is apparently prepped for a second version there is always a certain thrill. This is the case with the JS-2 from Tamiya. The hull is halved width-wise, an indicator that at least one of the assault guns is



on the way. Of course, they've done this to us before and not followed through. But this time there is no heartbreak!

When the time comes, seek out 35303, Soviet JSU-152 for tons of Soviet-style fun.

## Tasca

Those Japanese styrene masters at Tasca have leaked out some big news: a new 1:24 scale Panzer IIF (24-001)! The pictures we have seen so far are real juicy. The individual link tracks are even reported to have metal pins for durability.



In other news, there are two new Sherman kits: 35-L31, U.S. Medium Tank M4A1 Sherman Mid Production (w/ Initial VVSS Suspension), Y5985 and 35-L32, M4A1 Sherman Mid Production Free French Army (2nd Armored Division), Y5985. There are also two new accessory sets: 35-L29, WW2 German Jerrycan Set C (Early Type), Y1050 and 35-L30, WW2 Italian Jerrycan Set, Y1050. In our humble opinion, the Tasca gas cans are the nicest ones available right now.

Tasca's website also features the Shin-segumi, Kamizukuri and Adler's Nest lines. If you want to learn more, go to the English version of their home page at [www.tasca-modelismo.com/english/eshopmain.html](http://www.tasca-modelismo.com/english/eshopmain.html)

(BRO), \$10.00; 46401, Crusader Mk I Semi-Internal Mantle w/ Turned Barrel (Italeri), \$10.00 and 46402, Crusader Mk II Cast External Mantle w/ Turned Barrel (Italeri), \$10.00.

Tiger Model Designs is a great resource for adding detail to just about any WW2 model, especially the U.S. stuff. You can order direct from their website at [www.tigermodels.com](http://www.tigermodels.com)



## Tiger Model Designs

Tiger Model Designs has been very ambitious recently. They are already notorious for turning out some absolutely nutty stuff, like a Bergepanther conversion and a M8 HMC full kit. The latest insanity is their effort to make corrections for the Dragon T-34 STZ—they've ended up re-doing the whole darned thing!

There's also 35501, T-34/76 STZ Model 1942, \$125.00, a full resin kit in which almost every part has been re-engineered or scratch built. They've gone to town on the Tasca Sherman to make a conversion kit of a very early production M4A1: 25290, M4A1 Initial LIMA Production (Michael) Conversion (Tasca), \$100.00.

There are plenty of new little bits and pieces to add some spice to your life, too: 20010, U.S. AFV-Mounted Search Light, \$6.50; 25218, M4 75mm Turret Detail Set, \$12.50; 25221, M4 Post WW2 105mm replacement mantle (Dragon), \$15.00; 25250, M34 Early Mantle w/ Turned Barrel (Dragon), \$12.50; 25251, M34 Late Mantle w/ Turned Barrel (Dragon), \$12.50; 25253, M34A1 Mantle w/ Turned Barrel and Side Bolts (Dragon), \$12.50; 25254, M34A1 Mantle w/ Turned Barrel and w/o Side Bolts (Dragon), \$12.50; 25222, M4 76mm Turret Loader's Hatch, \$5.00; 46301, A13 Corrected Rear Deck

## Tankograd

Tankograd has been really cranking out the Modern Armor references lately. These books are all reasonably priced with nice, big, full color photos and lots of useful information. Here's a complete list of the new releases: 3011, MRAP: Modern U.S. Army Mine Resistant Ambush Protected Vehicles, €14.95; 3012, USAREUR: Vehicles and Units of the U.S. Army in Europe 1992-2005, €14.95; 5024, Wiesel 2: Mobile Weapon Platform, €14.95; 7015, IFOR, €14.95; 7016, Norge - Hærens Styrker: Vehicles of the Modern Norwegian Land Forces, €14.95; 9012, BAOR in REFORGER: Vehicles of the British Army of the Rhine in the REFORGER Exercises 1975-91, €14.95; 4-2009, Militärfahrzeug, €8.95; 9011, RECCE: The Eyes and Ears of 1st (UK) Armoured Division, €14.95; 5023, Panzertruppe 2010: German Panzer Forces in the 21st Century, €14.95 and Kampfpanzer LEOPARD 2, Leopard 2 Main Battle Tank: International Service and Variants, €49.00. That last title is a real whopper with 296 pages and 747 photos.

To check this all out and place your order, look Tankograd up at [www.tankograd.com](http://www.tankograd.com)





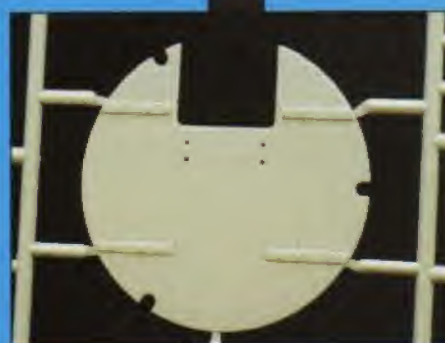
## Trumpeter

We've got lots of great news from the folks at Trumpeter for this installment of Short Takes. No other styrene company is covering all the bases quite like these guys. They don't just pump out WW2 vehicles and then call it a day—there's lots of modern stuff thrown in, too. Lately, we've seen them branching out even more with accessory and figure sets.

Trumpeter is also laying down some serious tracks! These are all workable sets and prices are TBA: 2031, Russian BMP APC model 1966 for Russian 1/2 APC; 2032, U.S. T156 track for K1/M1/M1A1; 2033, U.S. T158 track for M1A1/M1A1HA/M1A2; 2034, Chinese ZTZ99 track for Chinese ZTZ 99 Tank; 2035, Russian tank 1946 580mm for Russian T-54/55/62/ZSU-57-2/Chinese T-59/69/79/80/85II; 2036, U.S. T85E1 track for M24 light tank (late); 2037, U.S. T72E1 track for M24 light tank (early); 2038, U.S. T91E3 track for M41/42 light tank; 2039, German type 570P 'Diehl' for German Leopard 2 A5/A6 MBT; 2040, WW2 German Ferdinand for WW2 German tank destroyer; 2041, U.S. T66 track for M4A3E8 Sherman tank; 2042, Russian 650mm track for Russian KV/JS tank and 2043, UK TR60 (650mm) track for British Challenger 2 MBT.

The ride's not over yet, folks! There are two big new 1:35 scale railway releases and a revised Modern MBT in 1:35 scale: 0217, German BR86 Steam Locomotive, \$169.95; 1509, German Army BP-43 Geschützwagen Railcar, \$119.95 and 1522, British Challenger II w/anti-heat fence (slat armor), \$49.95.

Trumpeter will also be turning out more big Russian-flavored guns in the future in the form of a 122mm Gun M1931/37 (A-19) and two models of the 152mm: 152mm Howitzer/Gun M1937 (ML-20) and 152mm Gun/Howitzer D-20. We'll keep you posted on those.



And dig some sprue shots of the Berge Panzer IV and the Stryker from last issue's list.

Of course all this news is just the tip of Trumpeter's proverbial iceberg. To see all the horn blowing action you could ever handle, give [www.trumpeter-china.com](http://www.trumpeter-china.com) a visit.



## Verlinden

As has been the case for nearly 30 years now, Verlinden has loads of useful stuff. They continue to show signs of life with a healthy listing of new products and reissues of some of their classics: 2522, 1:35 Vietnam: The Wounded, \$14.95; 2523, 1:35 LSSC Vietnam Waterline Model w/ Stowage & fig., \$69.95; 2524, 1:35 Sherman Crab Conversion for (Dragon M4A4), \$69.95; 2525, 1:16 Nebelwerfer, \$74.95; 2527, 1:35 Vietnam: Search & Destroy, \$14.95; 2528, 1:35 Oak Leafs (leaf set I), \$12.95; 2529, WWI British Tank Corps, \$14.95; 2530, British Sherman Turret w/ Canvas Cover, \$19.95; 2531, M31 (T2) Recovery Vehicle Conversion Set (for Academy and Tamiya), \$64.95; 2532, Ovate Leafs (Leaf set II), \$12.95; 2533, Workshop Electric - Gas - Water Fixtures, \$21.95 and 2536, Pinnate Compound (Leaf set III), \$12.95. Note that items 2534 and 2535 are discontinued products that are being released under new numbers.

Don't forget to stop by [www.verlindenonline.com](http://www.verlindenonline.com) before you start your next project.

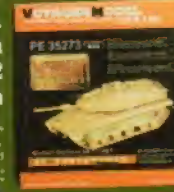


## Voyager

Voyager's output is truly mind-boggling. They are sort of the photo-etch version of Trumpeter, in that they're Chinese and really good at covering the gamut of subjects for military modeling. Their sets are a great value for the money, with enough eye-straining teeny parts to melt down even the strongest Optimizer. They usually throw in some handy resin bits to boot. We have been getting gobs of samples from these guys, so you will definitely see some of this brass in action in upcoming issues.

We'll start off slow with the accessory sets: PEA175, PzKpfw IV Stowage Bin (for Ausf. B/C/D); PEA177, German tank Stenciling Template 2 and PEA35274, Modern Merkava IV MBT Side Skirts.

Now for the heavy duty, no-nonsense mind-melters: PE35172, WW2 British Churchill Mk III Infantry Tank Fenders (AFV Club); PE35177, WW2 British Churchill Mk III AVRE (AFV Club); PE35178, WW2 German Sturm Tiger (Tamiya); PE35193, WW2 German



SdKfz 232 8-rad early version (Tamiya); PE35248, WW2 Russian T-34/76 Mod.1943 (Dragon); PE35257, WW2 German Bergepanzer mit aufgesetztem PzKpfw. V Turret (Dragon); PE35269, WW2 German Aufklärungspanzer 38(t) mit 75mm KwK (Dragon);

PE35270, WW2 German Aufklärungspanzer 38(t) mit 75mm KwK Armour Plate (Dragon); PE35273, Modern Merkava IV MBT (Academy); PE35295, Russian T-55A Medium Tank (Tamiya); PE35296, Russian T-55A Medium Tank Fenders (Tamiya); PE35299, WW2 German SdKfz 7/1 Part 1 (Dragon); PE35301, WW2 German SdKfz 7/1 Part 2 (20mm Flak 38) (Dragon);

PE35303, WW2 German PzKpfw IV Ausf. D mit 75mm KwK 40 L/43 basic (Dragon); PE35304, Modern Spanish Army VRC-105 Centauro RCV (Trumpeter); PE35305, Modern Italian B1 Centauro early version (Trumpeter); PE35306, WW2 U.S. Army M4 Mid Tank; PE35311, WW2 U.S. M16 Multiple Gun Motor Carriage (Dragon) and PE35324, PLA ZLC 2000 Airborne IFV (Hobby Boss).

If you are planning on doing any detailing at all on your next project, make sure to pay [www.voyagermodel.com](http://www.voyagermodel.com) a visit.



## Vajra

We first reported on these guys back in MMIR #46. Their 1:35 scale Buffalo MRAP really blew our minds. Here's what they've been up to recently: 35003, F350 Super Duty Gun Truck, \$129.00; 35004, 1:35 Wheel Set of 16.00 R20 for Buffalo/M1070/M1075, TBA;



35005, D9 Large Full Tracked Dozer, \$199.00 and AD001, DKW Boxer MRAP, \$189.00. The D9 is just about the wickedest bulldozer we've ever seen. Most recently, the D9 has seen lots of service in Operation Iraqi Freedom.

You can visit Vajra online at [www.vajraminiature.com](http://www.vajraminiature.com)

## SKP

SKP, which we only recently found out is not pronounced "skip," has a nice, healthy list going. Most of their stuff is cleanly cast in resin, but they also have a cool line of stamped brass helmets. Check it out: 043, ST-1 Post war Hetzer Conversion (Tamiya), €21.35; 055, Engine for SdKfz 251 (Dragon), €21.90; 056, Engine for SdKfz 11 (AFV Club), €21.90; 058, Squadron Leader, €4.99; 081, Worn-Out Wheels for Hetzer (10 pieces), €6.40; 083, British Soldier with Can, €4.99 and 084, Czechoslovak Independent Armoured Brigade, €21.90. This last item is a nice little book on a Czech unit that fought with the Allies in WW2.

See more at [www.skpmodel.eu](http://www.skpmodel.eu)

## Soldati

Soldati is an Italian figure producer that turns out some really superlative work. We have a pretty healthy list of their latest: 35040, Rottenführer Waffen Grenadier Brigade der SS (Italienische No. 1), €14.00; 35041, Pioneer, 5th. Assault Bn. (Rohr), Verdun 1916, €14.00; 35042, German Fallschirmjäger, Italy 1944, €14.00; 35043, Musketeer, 87th Landwehr Regt., Cernay, Lorraine 1915, €14.00; 35044, Marò, Btg. Fanteria di Marina "San Marco," Africa 1942, €14.00; 35045, Pathfinder Group, 101 Div. Aviotrasportata, €14.00 and 35046, Waffen SS Sturmman, 11. SS Freiwilligen Panzergrenadierdivision, €14.00.

These figures may be a bit hard to find from U.S. sources, but we did find an internet shop that carries the line. Surfing over to [http://www.best-soldiers.com/gallery\\_soldati/gallery\\_soldati.htm](http://www.best-soldiers.com/gallery_soldati/gallery_soldati.htm) is well worth the effort.

## Squad 48

Squad 48 has busted loose with an awesome little wedgie that everyone's gonna go nuts over: AOW4811, U.S. Tank Crew, late WW2. This little 1:48 scale gem has a U.S. WW2 tank crew with three head choices and the rear section of an M4A3 for a base. Look for it in the MMIR #50 Mini-Men. If you want more information on this and other Squad 48 products, email Paul Quek at [paul@minially.com](mailto:paul@minially.com)

## U-Model

These folks are devoted exclusively to the "wet" side of 1:35 scale. They offer a range of products for the plethora of nautically-themed kits now available. Take a look: 082, LWS Rear Tool And Stowage Boxes, 2 Pieces (Bronco), €15.47; 091, S-Boat/U-Boat Crew No. 4, €11.29; 092, S-Boat/U-Boat Captain, €11.29; 093, LWS Crew No. 3, €11.29; 094, LWS Crew No. 4, €11.29; 095, LWS Crew No. 5, €11.29; 096, U.S. Sailor At Rest No. 4, €11.29 and 097, U.S. Navy Sailor And Officer Smoking, €20.90.

To find out more and place an order, see [www.u-models.com](http://www.u-models.com), [www.blast-models.com](http://www.blast-models.com) or [www.azimut-productions.com](http://www.azimut-productions.com). We always have good luck ordering from Blast, whose website features illustrations of the entire U-Model line.

## Ultracast

Ultracast is generally known for excellent resin figures, but every so often they throw out some nice detailing bits as well. The latest two offerings from them are: 135017, WW2 British Empire Steel Munition Boxes B166 Mk II, \$7.95 CDN and 135018, WW2 British Empire Steel Munition Boxes B166 Mk III, \$7.95 CDN. As usual, the best way to shop for Ultracast is on the web at [www.ultracast.ca](http://www.ultracast.ca)

## Young Miniatures

Last but not least, we spotted two really awesome busts from Young Miniatures: 1816, USMC Fallujah Iraq 2004 and 1817, USMC Hue Vietnam 1968. This Korean company has some of the nicest resin figures on the market today. You can check out their lineup at [www.young-miniatures.com](http://www.young-miniatures.com). Young Miniatures is available in the U.S. through some of the better figure shops such as Michigan Toy Soldier, The Red Lancers and Colorado Miniatures.



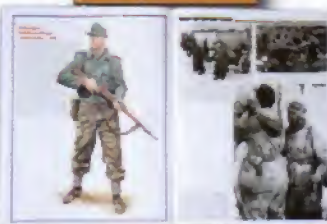
## Fighting Withdrawal:

The German Retreat in the East 1944-45  
By Gordon Rottman and Dmitry Zgonnick  
Concord Publications Company  
Soft Cover, 62 pages B&W with color  
ISBN 962-361-154-4



WE WERE REALLY HAPPY TO SEE this Concord title arrive from Dragon USA. Concord has been known from its inception for their affordable, concise reference works that are readily available from any local hobby shop. This new title is no exception.

The book starts off with a short textual introduction covering the reorganization of German infantry units during the late war period on the Eastern Front. From there it moves on to a



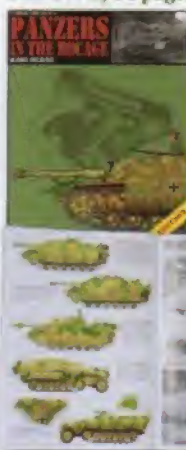
wealth of period photos divided into four subsections: The Infantry, Armour and Antitank Troops, Artillery, Luftwaffe Ground Forces and The Last Ditch. Each photo is informatively captioned, telling the story behind the image and pointing out various details to the reader. As usual, Concord includes some nice color plates sandwiched in the middle.

In summary, *Fighting Withdrawal* is a really good profile of German uniforms and personal equipment at an affordable price. Figure modelers and diorama builders will use and enjoy it as source material for their projects.

## Under The Gun 1: Panzers in the Bocage

By Karl Berne

Firefly Books (The Oliver Publishing Group)  
Soft Cover, 34 pages B&W with color



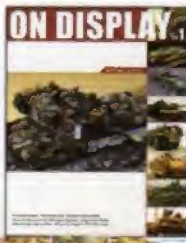
THIS IS THE FIRST TITLE FROM the Firefly Collection that we've had a chance to review, and we like what we see. This compact book is reminiscent of the Squadron Panzer Colors series, but much more focused. *Panzer*

*in the Bocage* is a skinny book as reference works go, but contains a lot of valuable information. The first section of the book is textual and includes a short history of all the

major German units involved in the Normandy battle. There is even a table detailing the armored vehicles from the 21st Panzer division, which had a large number of converted and captured vehicles. The bulk of the book consists of photos of German vehicles. Although many of them have been previously published, they are presented here in a nice, large format. There is a total of nine pages of color plates on all types of German vehicles from this battle. The inside back cover contains an informative chart that details the strength, composition and turret numbers of Tiger units deployed there.

Anyone interested in German armor during the Normandy battle will find this either an excellent primer or a great workbench reference thanks to its compact size and informative content.

On Display Vol. 1: Post War Armour  
Canfora Grafisk Roem & Forlag  
Soft Cover, 96 pages full color  
ISBN 978-91-976773-2-5



SOMETIMES IT SEEMS LIKE THE focus of our little hobby is almost entirely on the WW2 era, especially if you take a look at the release lists of the major kit manufacturers from the past few years. This is not necessarily a bad thing, but it is nice to see

someone pay attention to the rich menagerie of subjects from the modern era.

On Display Vol. 1:





*Post War Armour* is a showcase book brought to you by the same crazy cats that put together *The Nordic Edge Series*. There is an interesting mix of subjects covered here: A burnt-out M1 Abrams diorama, Stryker, Leopard 2A5, the Iraqi T-72 from the Iran-Iraq war, Merkava IV, Fuchs armored car, the M51 ARV in Vietnam, the FV-432 in Iraq and the PT-76. Each subject includes an article accompanied by large, full color photos. When compared to the *Nordic Edge* series, there is more room dedicated to in-progress shots and to background information on construction and finish, which is very welcome. The list of subjects is also shorter, so each one is covered in more depth. Because of the great cross-section and overall level of workmanship here, it would be unfair to call out any particular project. You just have to see them all and decide for yourself.

This book is a definite must for anyone looking to jumpstart their interest in modern armor or expand their horizons beyond the 1939-45 era.

### Tankograd Soviet Special No 2008:

**Russian Army on Parade**

By Jim Kinnear

Tankograd Publishing

Soft Cover, 64 pages full color



WHEN IT CAME TO CHOOSING A Tankograd title to review from the generous stack provided by the publisher for this issue, *Russian Army on Parade* was the clear winner. This book covers vehicles from the Red Square military parades of 2008 and 2009. These were all but abandoned in 1990 with the breakup of the Soviet Union but were recently re-instituted.



This title provides full color profiles of the most current Russian vehicles including the T90, GAZ-2330 (think Russian HMMWV), the BTR-80 Armored Car, the gigantic 2S19 MSTA-S 152mm self-propelled howitzer and a number of air defense vehicles and mobile launch systems painted up in a very cool three-color hard-edge scheme. Each vehicle is given its own subsection with background text and large, full color photos. Now let's hope that some of the major manufacturers will take notice of this book and pump out a few of these subjects!

All fans of modern armor and Russian armor in particular will foam at the mouth when they see this book.

### Gun Power 30: Jagdpanzer 38 Hetzer Vol. 1

By Marcin Rainko

AJ Press

Soft Cover, 128 pages B&W with color

ISBN 978-83-7237-200-0



THE HETZER HAS BEEN A FAVORITE subject for many years now and modelers can take their pick when it comes to kits, accessories and references for this scrappy little tank destroyer. Recently, Tamiya has joined the fray with new kits in 1:35 and 1:48 scale, reigniting interest

in the Hetzer. With that in mind, the fellas over at AJ Press have put together this new volume in the *Gun Power* series for all of you hungry to get your mitts on an all-in-one guide on the subject.

*Gun Power 30* follows the same format as earlier works from the series. There is a short background on the development of the German tank destroyer

concept followed by production and modifications of the Hetzer. This is followed by a detailed technical description with many factory photos and line drawings, a chapter on camouflage and markings; lots of color

plates, full color museum photos and a profile of Hetzer kits and accessories available on the market. This is a very thorough treatment on the vehicle, right down to unit allocation charts and factory photos showing the breakdown of many components.

There have been other books that have dealt with the Hetzer, but no single volume seen in recent years provides such thorough coverage. If you are doing anything Hetzer, order yours today.

### M3 Medium Tank (Lee & Grant) Walk Around

By David Doyle

Squadron/Signal

Soft Cover, 80 pages full color

ISBN 978-0-89747-586-0



THE M3 LEE IS ANOTHER perennial favorite, and Academy has recharged interest in it in the past few years. Unlike German armor, which seems to receive gobs of coverage from all angles, you really have to keep an eye out for

good reference on Allied subjects. Luckily for us, the folks over at Squadron/Signal have been keeping David Doyle hard at work filling this gap, especially on the U.S. stuff.

As usual with the Walk Around books, there is a short introduction that segues directly into gobs and gobs of full color photos of restored vehicles, both interior and exterior. The first vehicle is a late production Lee belonging to the National Museum of Americans in Wartime. This example makes up roughly half the book and includes extensive interior coverage. A cast hull example from Aberdeen follows, then some shots of a welded-hull vehicle. Last but not least there is a walk-around of a Grant also owned by the National Museum of Americans in Wartime. Line drawings and color plates of various examples are interspersed throughout.

Like the other titles in the Walk Around series, this is a great value due to the large amount of great full color photos inside.

### sFH-18 Family in Detail

By Koran, Horak and Dolezal

Wings & Wheels Publications

72 pages full color

ISBN 978-80-86415-73-1

WE'RE STILL PLOWING THROUGH A HUGE PILE OF WWP books, but this one seemed like a timely choice since both Dragon and Trumpeter have a kit out of this



redoubtable German artillery piece. Good reference on artillery subjects can be a bit hard to find, so walk-around books like this one are invaluable to the detail-oriented modeler.

The book starts off with some period photos and a short textual introduction before launching into full

color photo essays on five different surviving examples. There are three different German sFH-18 examples, the sFH-36 variant, and the Czech sFH-18 ex M18/47 152mm on the original sFH-18 carriage. Relevant differences between each of these guns are pointed out in the captions. Locations of each exhibit gun are also given in detail for anyone interested in going to take a look for themselves. At the end of the book is a photo essay on the 15cm ammunition and carriers. As usual, WWP does an excellent job providing lots of close-up shots from all different angles.

Modelers looking to add extra realism to their German 15cm howitzer will not want to miss this title.

### Centurion Tanks of the IDF: Shot Kal Alef Vol.3

By Dr. Robert Mansherob

SabingMartin Publications

80 pages, B&W with color

ISBN 978-0-9841437-0-2



THIS IS THE FIRST TITLE IN SabingMartin's series on the Centurion that we've taken a good look at. Even though Israeli subjects are a favorite for many modelers, good reference material is pretty thin. The Shot Kal is

an extensively upgraded version of the Centurion that first saw action in the 1973 Yom Kippur War. The main thrust of the Shot Kal program was to upgrade the mobility of the tank

by replacing the original Meteor engine with the Continental ADV1790-2AC V12 Diesel that was also used to power the U.S. M48A3 Patton. During this process, many other components were also modified, such as the fuel system and stowage.

The book includes in-depth textual and photographic documentation of this modification process. From there it moves on to coverage of the Shot Kal in action with a nice spread of informatively captioned black and white photos. There are no fewer than 10 pages of line drawings interspersed with the photos in this section. This is followed by a 25-page full color walk-around essay using an example from the Israeli Latrun armor museum. The book finishes up with 5 pages of color plates and a short essay on color and markings.

The research for this book was used to produce AFV Club's 1973 Shot Kal (35-124) and no one should take on that kit without this book. Centurion and Israeli armor fans will find a sure winner here and we look forward to seeing more titles in the series in the future.



# Plastered Panther

ATAK-ing Dragon's  
Jagdpanther early production  
version with Zimmerit



**T**he Jagdpanther is considered by many to be the finest dedicated tank destroyer of the Second World War. It combined the 88mm L/71 gun from the King Tiger with the chassis of a Panther tank for a well balanced blend of mobility, firepower and protection. Thanks in part to Allied bombing, Nazi Germany was only able to build a pitifully small number of these vehicles. The total production figures vary between 392 and 417, depending upon which references are used.

The subject remains a perennial favorite for modelers and Dragon has released several versions of this kit in 1:35 and 1:72 scales, but the latest is the Smartest...

Well, kinda. It really depends on whether you can find the references you'll need to figure out all of the Smart options that are not explained in the instructions.

## When the carpet doesn't match the drapes

Is this kit an accurate depiction of an early production Jagdpanther? By all accounts, yes! However, the unit markings provided do not match the vehicle depicted in the instructions. The markings provided are for two vehicles of Schwere Jagdpanzer Abteilung 654, the first unit to receive the Jagdpanther. It saw a lot of action in France, most notably in the British sectors of Normandy.

From available photos, it looks like there are two major modifications that need to be performed to

make a vehicle from the 654 in Normandy. To start with, the exhaust pipe array depicted in the instructions (parts M23, M24 and M6) does not match reference photos. None of the vehicles from this unit appear to have the two extra cooling pipes on the left side exhaust. Rear views of 654 vehicles show an exhaust array that resembles the one on an early Panther G. Luckily, parts to make this configuration are provided (G29 and 30), but they are not called out in the instructions.

The second major issue is that all of the onboard equipment that was usually mounted on the sides of the hull was moved to the back of the vehicle so that these items would not be inadvertently ripped off when maneuvering in close terrain such as that found in Normandy. The shovel and fire extinguisher were moved to the right side rear superstructure plate; the jack block, wire cutters, sledgehammer and barrel cleaning rod container were placed on the engine deck; and the track tensioning tool, starter crank and tow clevises ended up on the lower rear hull plate. The AJ Press book on the Jagdpanther provides numerous photos of this unit's vehicles and some good color plates that illustrate these changes. Incidentally, this stowage arrangement was later officially adopted for the final production model of the Jagdpanther.

After taking a close look at the kit contents and the instructions, I go back over my reference material. So where do the kit and reality match up? Why, in London, of course! The example now enshrined at the Imperial War museum is a command version

with the Schwere Jagdpanzer Abteilung 559. It was captured during Operation Market Garden after the Brits punched four holes in its right side. The exhaust array, tools and other pertinent details of the IWM vehicle all match the kit instructions. All that's left to do is throw on Zimmerit and a command antenna and get some new markings.

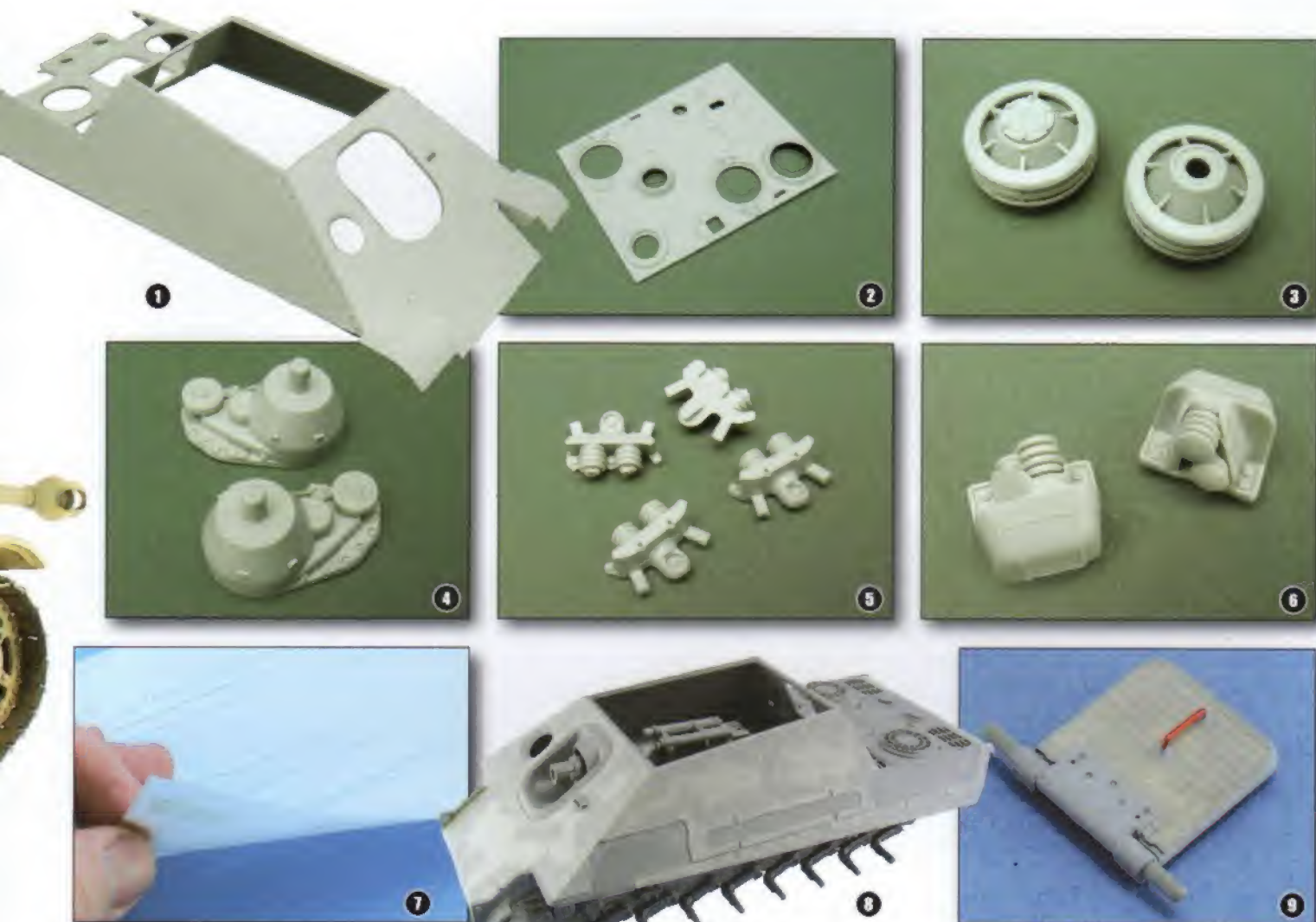
## First things first

On an historical note, the subject of this particular project was last commanded by Major Erich Sattler while in charge of the 3rd Regiment of Abteilung 559. While moving into a defensive position near Hechtel, Belgium on 8 September 1944, Sattler's unit engaged armor of the Welsh Guards, including a Cromwell commanded by Lt. W. Hugh Griffiths. After allowing Sattler's Jagdpanther to pass, Griffiths's gunner, Sgt. Ivor Wilcox, proceeded to shoot the German officer's mount out from underneath him with a quartet of well-placed shots into the vehicles starboard flank. Sattler, who was momentarily rendered unconscious while escaping his mortally wounded tank, managed to evade capture and eventually made it back to German lines.

Since the kit is crying out to be modeled as Sattler's command mount/museum prize, I set out to acquire all the necessary accoutrements. Master Club tracks, Model Schatton aerials, ATAK Zimmerit, Archer markings and the prerequisite Aber goodness all help fill my virtual shopping cart.

The first three steps involve the assembly of the roadwheels, sprockets, nifty new 600mm idlers and a





**1.** The one-piece upper hull looks great. It takes a little persuasion and gluing in stages to make it settle down on the lower hull properly. **2.** Patience and careful sanding on all four sides is required to get the oversized crew compartment roof panel to fit. **3.** A detail that some other Jagdpanther kits omit is the smaller 600mm rear idler was used on virtually all production vehicles. **4.** Dragon slightly revised the Panther final drive covers for this kit. The detail is slightly better and the small return roller is easier to clean up. **5** and **6.** There are new bump

stop parts provided with this kit for which I could not find a reference. Be careful as the 3/4 view in the instructions shows the fitting of the wrong parts. **7.** The beautifully rendered ATAK Zimmerit atop its paper-thin resin backing sheet. **8.** The majority of the model covered with ATAK Zimmerit. The light areas on the resin panels represent potential problem areas where superglue has not reached. I incise these areas with a sharp blade, and then allow the superglue to wick underneath. **9.** The ATAK Zimmerit panel fits the rear hatch like a glove.

handful of lower hull details. However, contrary to convention, I like to build as much of the hull as possible before adding much in the way of wheelie things. Hey, we all have idiosyncrasies! This has the benefit of putting off the tedium of cleaning up dozens of wheels, a process I like to spread out over the course of the build. See, there is method to my madness.

Assembly of the lower hull progresses smoothly. Some really cool (but soon to be hidden) torsion bars (parts E1 and E8) are installed. As in earlier releases, Dragon nails the unique arrangement of swing arms with many flavors, including the tricky trailing arm (parts E2-E7). For your money, you also receive a pair of new, much more detailed final drives (parts H7 and H8) and two slick, one-piece drop-fit details that represent the bank of intake fan, radiator and shutter boxes that fit under the rear deck ... perfect to satisfy those sickos that like to peer under someone's grilles.

Some details that seem puzzling are the forward and rear shock dampers (parts T3, T4 and E13, E14 respectively). Poring over the pages of my Achtung Panzer No. 4 leaves me with no bona fide evidence that Dragon's design of these parts actually existed. Curious, eh Watson?

### Zimmerit, by any other name

I am really impressed with ATAK's Zimmerit for this model. Solidly packed in a double-sleeved envelope, the 9 x 5 1/2-inch sheet includes 18 wafer-thin panels, each placed on a nearly translucent sheet of resin. What is neat is that each panel has the appropriate cutouts for tools, clasps and fittings, making the relocation of these details a snap. This particular set for the Jagdpanther looks like it was copied straight from photographs. The crosshatched pattern is both accurate and to a scale thickness, and the raw edges look incredibly realistic.

Using this stuff is easy. The instructions advise you to sand away the edges from the backside of the panel, and then carefully install each using Microscale Micro LiquiTape or superglue. In this case, I position each component and secure it place with my trusty ol' Mark 1 thumb. I then apply water-thin superglue to the edges, allowing it to wick under each panel. This process firmly affixes each panel in place. The details fit perfectly and I manage to Zimmerit the entire model is less than an hour!

The set also includes separate details such as pre-textured rear stowage bins and small panels for each front fender. Individual bits to replace the small, hinged fender portions are also provided. I

choose to use the Aber fender bits for the small-hinged flaps, matching the Zimmerit pattern with Duro Kneadatite. I will not hesitate to use ATAK Zimmerit again! Although I was once a purist when it comes Zimmerit, always wanting to make my own, I am now a convert. The stuff is that good.

Once I apply the Zimmerit, I clean up each adjoining edge and fill them with small amounts of Gunze Sangyo Mr. Surfacer 500. I then stipple a neat layer of surfacer directly onto the Zimmerit to help simulate its rough texture. The bare hull areas, rear deck and superstructure roof are also given this treatment, though not as dramatically. I also add Milliput weld detail to both the glacis and rear plate.

The Aber turned aluminum 88mm PaK 43/3 L71 barrel is a veritable jewel. Complete with a multi-part brass muzzle brake and appropriate one-piece gun tube, it fits the Dragon mantlet with very little whittling required.

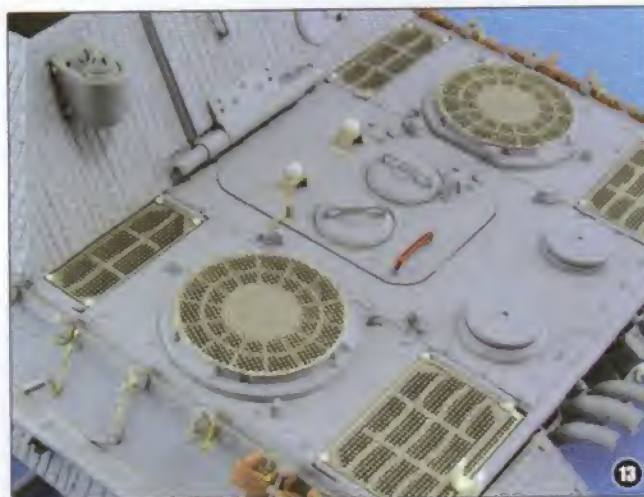
### Fender me speechless

Following Aber's instructions, I build the front fenders without any trouble. For the soldering applications I use a Wahl rechargeable soldering unit, along with Tix low melt solder and flux. Not having any sophisticated soldering jiggy, I





**10.** The extensive treatment Aber gives the teeth of the Jag. **11.** I glue super-thin ATAK resin Zimmerit panels to each replacement Aber fender and use epoxy putty to simulate the pattern on the hinged flap. **12.** The reworked tailpipe supports, Aber jack bracket with scratch built knock-off pin and the ultra-neato pre-textured ATAK stowage bins. **13.** The nearly completed engine deck. **14.** Part of the tool array found on the Jagdpanther's right flank. Note the replacement Royal Models fire extinguisher. **15.** The cleaning rod tube, detailed with bits of chain and embellished with Aber artistry. **16.** A custom blend of Tamiya Dark Yellow and Flat White reduced with lacquer thinner and airbrushed onto the model. I paint the superstructure roof separately and affix it later, which allows me to use the gun breech as a handle during the painting stages. I apply a camouflage pattern of Tamiya Field Gray acrylic. **17.** Here I am quickly placing slightly reduced raw umber oils around surface details. **18.** Everything you need to assemble the



awesome Master Club tracks. **19.** Schatton Modelbau's superlative turned brass aerial set. After using these, I consciously decided never to use anything else to replicate German antennae.



typically cobble together satisfactory methods of holding parts in place with tape and tacking details in place with superglue.

After the fenders are built, I attach the smallish ATAK Zimmerit panels to each using the aforementioned method. Again, they fit perfectly. I forego the pre-textured tow shackle flaps on each fender. Instead, I build the Aber offerings (1L and 1R), which, if carefully assembled, really work. A smidgen of Kneadatite epoxy putty to simulate Zimmerit finishes each one off.

#### Tail-end Charlie

Several details on the model's rear quarters need attention. According to Achtung Panzer No. 4, which identifies Black 01 as a May-October 1944 production vehicle, the triple-stack bracket system does not quite match Aber's idea of how this detail was configured. Therefore, I again opt to pull out the trusty strip styrene and simply enhance the kit offering, using my references as a guide.

Dragon does a decent job replicating the cast texture of the exhaust housings (parts Q3 and Q4),

but I take it a little further with Mr. Surfer. I drill each exhaust out and then add small lengths of .010-thou rod to the throat of the stacks.

I detail the rear of the vehicle with ATAK's textured stowage bins and Aber bits such as the convoy light and reflector, and also improve the engine deck with Aber's engine lid latch and rear hatch stops. I whittle the rubber bumpers from the kit parts (M14)—and then promptly lose them, which means I have to fab some up using styrene rod. For the stabsantennae pot and armored cover, I plunder a Dragon Brummbar kit.

Aber's finely woven grille screens fit perfectly. I top off the rectangular versions with bolt heads from .030-thou styrene hex stock.

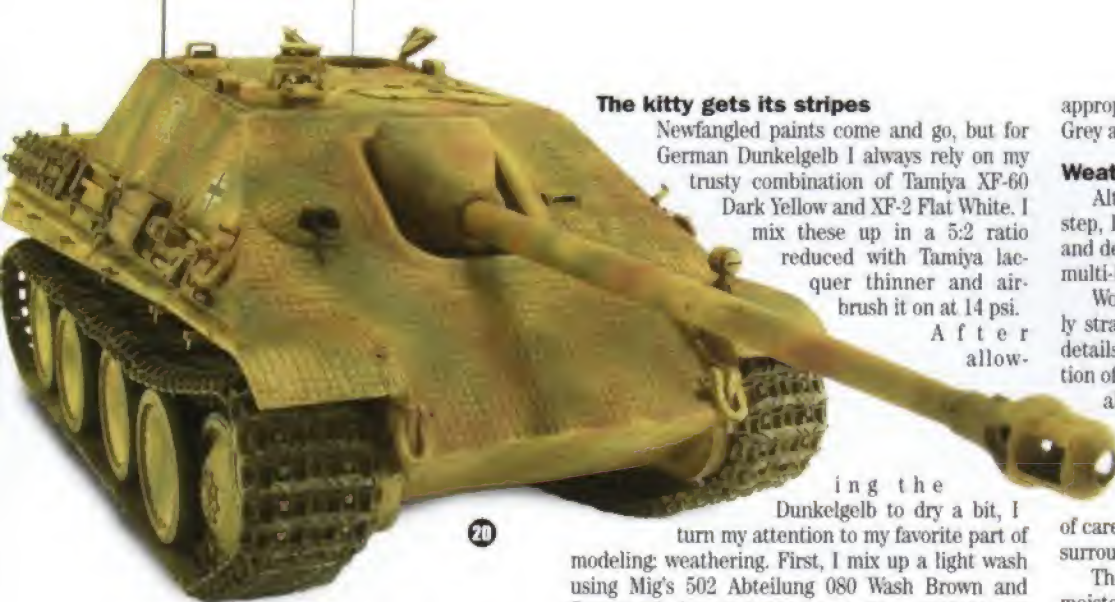
#### It's all in the detail

As a carry-over from the original Panther series, this vehicle's tools are located on either side of the hull. Aber provides you with a complete suite of details to replicate this arrangement. This seems a little overwhelming at first, but a logical approach—along with my trusty Wahl soldering pen



with micro-tip—makes short work of these complex details. I start with the forward tool racks and work my way to the rear, following Aber's thorough instructions for an Early Jagdpanther. Dragon does supply nice photo-etch grilles, but since I had a full set of finely woven Aber screens, I decide to use them instead.





### The kitty gets its stripes

Newfangled paints come and go, but for German Dunkelgelb I always rely on my trusty combination of Tamiya XF-60 Dark Yellow and XF-2 Flat White. I mix these up in a 5:2 ratio reduced with Tamiya lacquer thinner and air-brush it on at 14 psi.

After allow-

ing the Dunkelgelb to dry a bit, I

turn my attention to my favorite part of modeling: weathering. First, I mix up a light wash using Mig's 502 Abteilung 080 Wash Brown and Turpenoid (a synthetic turpentine available at well-stocked art supply stores). I hand brush this "tonal" wash over every inch of the model and allowed it to dry. The purpose of this is not to accentuate specific details, but simply to add depth and continuity to the monochromatic color scheme. I am particularly careful to avoid flooding the grid-like Zimmerit pattern with too much of this color. That will come later.

In keeping with my reference photos, I next add

appropriate camouflage using Tamiya XF-65 Field Grey and XF-64 Red Brown.

### Weather 'tis nobler...

Although adding markings is typically the next step, I prefer to wait on this because dry transfers and decals tend not to respond well to the abuse of multi-layer washes.

Working in small areas, I use a pin wash of nearly straight raw umber to pick out all the surface details. I first coat the surface with a light application of Turpenoid to help break the surface tension, allowing the wash to be better manipulated around details. Next, I brush slightly thinned raw umber oils around surface details, again confining this to areas pre-moistened with Turpenoid. I don't take a lot of care with these steps. My main concern is simply surrounding the details with paint.

The final step in this technique is using a brush moistened with Turpenoid to blend the remaining oils, creating a seamless transition. Take care not to pull too much of the dark oils away from the details. This results in very subtle and random effects within each area, adding to the character of the model.

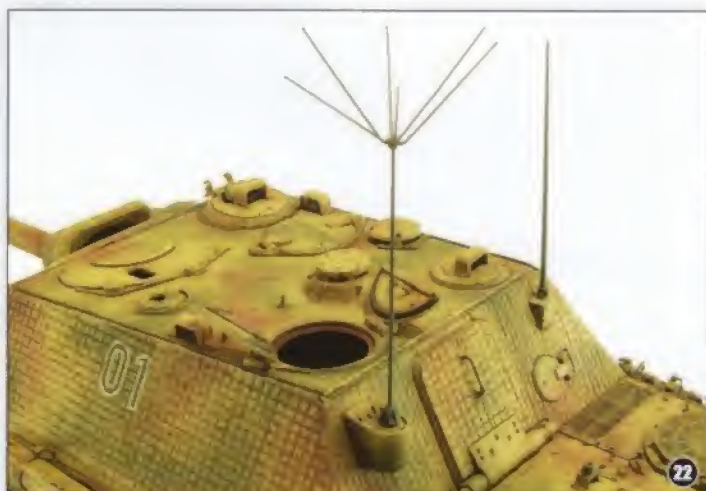
I often repeat this technique many times until I find the right combination of light and dark areas, with gentle transitions in between. In addition, I like to incorporate other colors such as raw sienna, raw umber and burnt umber to add tonal variety to the surface of the model.

Oddly, Aber does not supply new spare track hanger brackets. No worries—the Dragon set-up (parts A3 and C39) combined with lengths of photo-etch chain is perfectly sufficient. A few links of Modelkasten spare tracks complete these assemblies.

Once all the detail work is completed, I spray one last light coat of Mr. Surfacer and get ready to begin adding color.



**21.** The butt of Major Sattler's mount. The ATAK Zimmerit can be seen to good effect on the rear plate. Check out those sexy bins! **22.** The Schatton Modelbau brass command aerial set consists of a 1.3-meter Sternantenne and 2-meter "crow's foot" antenna. The crow's foot is constructed from four parts. Careful soldering guarantees a solid



bond. **23.** The Master Club tracks are a work of art. Note the replacement red oxide hub cap—a little trick to add a splash of color and visual interest. **24.** Under a coat of paint all the extra-detailing added to the pioneer tools and gun cleaning rod tube really pays off.







stant wear and the occasional flake here and there just to add character. I produce the scratches by actually scratching the model with a scribe—what a concept! I then add black brown acrylic, followed with a brief application of burnt sienna artist oils for a rusty look.

#### Tracks

This is the first opportunity I have to use Master Club tracks, and it will definitely not be my last! This is the most accurate and durable set of resin workable tracks I have ever encountered. One of the features that makes them so neat is that absolutely no glue is needed for assembly. My often ham-fisted gluing attempts on other brands of individual

tracks typically results in sections being rendered completely unworkable. No such problem here.

An unassuming 3-inch by 5-inch zip-top bag contains 220 links and 440 miniscule resin pins. The instructions call for each link to be drilled through using a .6mm drill bit (not included), and after perusing my box o' bits for the appropriate diameter, I do just that. Tedious, yes. I decided to work on just a handful of links at a time, in between modeling sessions. This way I complete both runs in just a few days with absolutely no aggravation.

The coolest part of the whole process is installing the track pins. Made of resin, the pins represent both the rounded inner and outer lock-washed ends and are approximately .020-thou in diameter and .065-thou in length. I use fine-pointed tweezers to start each pin and then the flat side of the tweezer to push the pin in the rest of the way,


locking the links securely together. A little trial and error is required to get the proper number of links to fit with the right amount of sag. However, removing links when necessary is a breeze.

The dark gray tracks are primed with Tamiya Super Fine Primer from an aerosol can, then coated with Vallejo Track Primer. When that dries, I apply washes with various oils before installation. To replicate the bare steel I brush Humbrol 27003 Polished Steel enamel onto the contact surfaces, then polish them with an old cotton T-shirt. I mute the resulting bright worn steel effect with a quick wash of raw umber.

I envision placing this model in a diorama, so I take it easy with the weathering. A few layers of pigments and pastels, concentrated on the lower extremes of the vehicle, will do for now.

The final touch is the addition of Schatton Modelbau command aerials. I use the 1.3-meter Sternantenne and the 2-meter "crow's foot" Stabantenne. The latter is made up of four parts, with three brass rods bent at a 45-degree angle after being inserted into pre-drilled holes in the crown of the antenna body. I permanently affix these with careful soldering. All the aerials are primed, and then painted Vallejo 167 German Grey.

#### Wrapping up

Suffice it to say, a swell model of an early production Jagdpanther can be built straight from the box. With a little sweat, some patience, and careful attention to your reference material, a modeler can take this kit to another level with the many terrific quality aftermarket accessories currently available. 

—Mike Kirchoff and  
Jeff Kleinhenz

#### Archer to the rescue

Using markings from Woody Vondracek's excellent Archer Fine Dry Transfer line, I add a Balkenkreuz and then a Black 01 on each side of the vehicle. The transfers go on over the Zimmerit without a hassle. A quick blast of Testors Dullcote seals the markings, and a brief dousing of raw umber oils ties them into the existing camouflage.

#### Weathering, part deux

Detail painting begins with a coat of Vallejo Panzer Aces 70304 Track Primer on the spare track links. By most accounts, this brownish-gray shade represents the manganese-based German tracks pretty well.

Dragon supplies a length of very finely wound steel wire (part R), which, when combined with the ends (part K21), makes a cool representation of the track running rope. I wrap this assembly around Aber's replacement bracket in a semi-random manner, kinda like how I put away the garden hose.

I give all of the wood components a coat of Tamiya XF-59 Desert Yellow, and then

brush them with nearly dry raw sienna oils to simulate wood grain. The metal parts are painted dark gray and highlighted with graphite. I give the bow machine gun a coat of black, then a light wash with Phthalo Blue artist oil. Another finger-applied treatment of graphite completes the work.

The two exhaust stacks are given a very light coat of dark sienna oil paint—just enough to thoroughly cover the thin metal pipes. I then immediately stipple on various pigments and pastels to create rust colors ranging from deep brown to almost yellow. I love this technique and wish you would too!

I brush paint the road wheel tires with Vallejo Panzer Aces 70306 Dark Rubber and drybrush the edges with 70305 Light Rubber. The teeth of the drive sprockets are painted Games Workshop Chainmail from the Citadel Color line. This water-soluble paint is a great way to represent worn steel. Once that dries, I install the wheels and sprockets and weather them using the aforementioned processes.

Final weathering effects in the form of chipping and scratches are accomplished several ways. First, using Vallejo Model Air 042 German Camo Black Brown, I add small chips with a fine-pointed brush. I limit these to random edges, logical areas of con-



## MMiR RECCE

**Dragon Jagdpanther SdKfz 173 Ausf. G1 Early Production Smart Kit.** Kit number 6458. Suggested retail price \$50.95.

**Aber Grilles, Detail Set, Fenders and 88mm PaK 43/3 L71 Barrel.** Set numbers 35G21, 35224, 35222 and 35L67. Suggested retail prices \$11.95-\$25.95. Graciously provided by the manufacturer.

**Master Club PzKpfw V Ausf. A/G Tracks.** MC135001W. Suggested retail price \$26.00. Graciously provided by Andrew Spencer of Historica Books.

**ATAK Zimmerit Jagdpanther Early Version.** Set number 35043. Suggested retail price \$24.95.

**Archer German WWII Turret Numbers and Late WWII Balkenkreuz.** Set numbers 35104 and 35038B. Suggested retail price \$7.95 each. Graciously provided by the manufacturer.

#### References

*Achtung Panzer No. 4: Panther, Jagdpanther & Brummbar* by Hiromu Araki. Dai Nippon Kaiga, 1994. ISBN 978-4499226714. Suggested retail price \$29.95.

*Panzer in Saumur No. 2* by Hiroshi Ichimura. Dai Nihon Kaiga, 1990. ISBN 4-499-20554-9. Suggested retail price \$29.95.



# Polish



**I**n keeping with their tradition of cramming their kits full of parts, Dragon has stuffed the box of their latest M3-based halftrack with no fewer than 14 injection molded sprues, a set of beautifully detailed drive and idler wheels and two armored radiator covers that, with the aid of separate photo-etch parts, can be displayed with the louvers either open or closed. A set of nicely registered Cartograph waterslide decals, a small length of chain and a long length of thread round out the kit's contents.

This is my second M3 halftrack project, but it's the first I have built for review. The other was the M3 GMC mounting the 75mm gun. On that model I had a nightmarish time getting the cab assembly to fit properly onto the chassis—I actually had to grind away parts of the exhaust muffler and gearbox to get it to fit. If that wasn't enough, I had problems

matting the body section to the cab, which necessitated the copious use of superglue, accelerator and three hands. I think you'll understand why I was more than a little reticent to spend too much time on extra detailing. All I really had the stomach for was driver's foot pedals and improved suspension units.

But let me get back to the project at hand. I can't help but be impressed with the level of detail Dragon has incorporated into the moldings on even the tiniest of parts. I'm also pleased to see that they have finally omitted the duplicated driver's compartment side sections and armor panels that feature the incorrect rivets. The controversial weighted front tires are still included, however. When Dragon first released these new halftracks there was a lot of debate over whether they should feature bulged and flattened portions at the bottom.

It's been discussed ad nauseam that real halftrack tires don't do this, but to be perfectly honest when the model is finished this feature is hardly noticeable.

Construction is pleasantly painless with no real problem areas. Some parts do need a little extra trimming to get a perfect fit, especially around the front of the chassis where the front bumper assembly mounts. The two mounting spigots onto which the winch drum mounts are a little too long and need to be trimmed down for the drum to fit into the opening. After all the problems I had with the M3 GMC, I am more than a little relieved that this kit goes together so well.

While I'm on the topic of the front end, it's worth noting that the front suspension torque links (parts A31 and A34) are outrageously delicate. Take extra





# meat grinder

## *The Editor gets stuck in Dragon's M16 Multiple Gun Motor Carriage.*



**1.** This is common to all of the M3-based vehicles. Dragon has done an excellent job of replicating this complex structure. **2.** Out of the box the engine is well detailed and will please most, but there is still plenty for the super detailer to add. **3.** The fighting compartment interior displays plenty of details, including spare barrel storage and finely detailed hinges. **4.** The power traverse charger and batteries for the turret. All that's missing are a couple of leads from the battery terminals. **5.** The four .50 caliber machine guns are some of the best you will see in injection plastic. Highlights include hollow muzzles, separate feed-tray covers and detailed feed mechanism. **6.** Dragon has done a great job replicating the gunner's yoke. It's a shame this part is hardly visible on the finished model and completely invisible if the gunner figure is installed. **7.** Here you can clearly see the difference between the Tank Workshop's "tombstone" ammo box on the left compared to the Dragon part on the right. **8.** The gun mount plates are very well done, but unfortunately the sprue attachment points are located on the fine teeth of the elevating gear. Very careful clean-up is needed here.

special care when removing them from the sprue and cleaning them up, because they have a real tendency to break.

### **Detailing free**

The only areas of the model that could do with the tiniest amount of extra detailing are the main suspension bogies, which in some references have both oval and round holes with raised edges. Casting numbers and bolt heads for the return roller mounting



brackets are missing from the kit parts. The other missing item is the exhaust-mounting bracket fitted to the right-hand suspension unit. This consists of a flat plate that extends out from the top of the unit at about 45 degrees and fixes to the end of the exhaust with the aid of an inverted U-shaped clamp. I added these parts to the M3 that I haven't actually finished yet but not to this M16 as I am determined to build this one out of the box.

Pat suggested that for ease of painting I assemble the tracks the way he describes in his M2 article from issue 42/43, but I decide to just glue the whole lot together and worry about painting later! I try to be clever and paint everything in neat little sub-assemblies, but I always end up making a real mess when it comes to putting them together. Is it just me, or do they never seem to fit as well as when they were unpainted? My philosophy is: the more you can glue together before painting, the better!

Moving on to the upper portions, I'm pleased to report that the driver's compartment and main body



parts all go together well and display some fine details, including tread plate floor sections and all the handbrake and gear levers. The super-detailers among us may feel the need to add better detailed foot pedals to replace the little square blocks that Dragon supplies, but non-purists will take comfort in the fact that they will be all but invisible on the finished model.

### **Guns-a-go-go**

For me, the most impressive part of the whole kit is the M45 multiple machine gun mounting equipped





nearly completed the assembly that I get the irresistible urge to finish it as the Polish 1st Armoured Division's vehicle sporting the "Mickey Mouse" scheme. Unfortunately I've already attached a U.S. radio that wouldn't have appeared on such a vehicle,



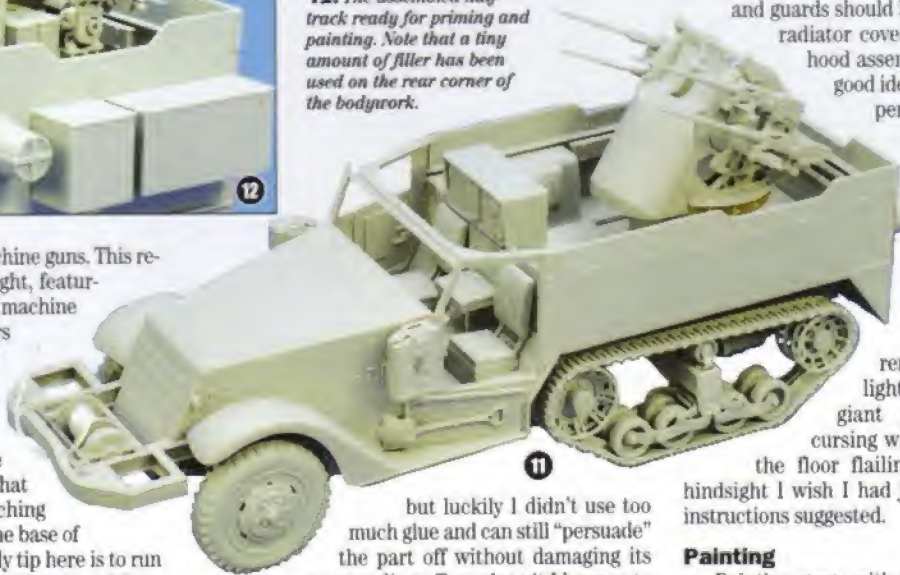
**9 and 10.** I replace the SRC-528 radio supplied in the kit with a resin No. 19 radio set from Resicast. **11 and 12.** The assembled half-track ready for priming and painting. Note that a tiny amount of filler has been used on the rear corner of the bodywork.



with four fearsome .50-caliber machine guns. This really is a great model in its own right, featuring beautifully detailed slide-mold machine guns with separate feed-tray covers and hollow muzzles. The gunner's position is well detailed and includes accurate control/firing grips and an M9 reflector sight molded from clear plastic. The only part of the whole assembly that might prove a little tricky is attaching the photo-etch that goes around the base of the circular mounting platform. My tip here is to run the photo-etch strip between your thumb and forefinger a few times to impart a curl, which will help it conform naturally to the circumference. On a side note, I have some Tank Workshop "tombstone" ammo boxes in my collection that I try to use to bolster the standard vehicle allotment, but when I place them next to the kit boxes I notice that they are much smaller. So much for that idea! Now if only someone could tell me who got the size wrong...

If you really want to go to town detailing this gun or want to check out just how good of a job Dragon has done, then I highly recommend *Allied-Axis* #24. It has plenty of both great historical photos and reference shots.

Initially, I don't really know which vehicle I want to depict from the painting guide. It isn't until I've



but luckily I didn't use too much glue and can still "persuade" the part off without damaging its surroundings. To replace it I happen to have on hand one of Resicast's excellent No. 19 radio sets, which goes together without any problems. It just takes a bit of patience to add all the photo-etch guard sections. The No. 19 looks great and offers a very different look to the standard SCR-528 wireless set fitted to U.S. vehicles. So much for building the model straight out of the box!

Since I'm on the subject of the radios, I should add that there is no mention as to which radio or ammo stowage arrangement is required for the vehicles depicted in the painting guide. Dragon offers the

choice of the large SCR-528, which contains two ammo boxes, and the rack, which contains four boxes and a much smaller box. I assume that the small box is a radio, but even after consulting *Histoire & Collections' Government Issue Collector's Guide*, I still can't figure out exactly what it's supposed to hold. Whatever vehicle you decide to depict, some extra research will most definitely be needed to ensure accuracy.

### Final fittings

The last stage of construction deals with mounting the cab and body assemblies onto the chassis. Although I am a little apprehensive thanks to my experience with the M3 GMC, I have no problems at all this time around.

On the M3 I used the armored radiator cover with the photo-etch louvers in the open position, so for a change of pace I use part H3 with the louvers molded in place. I do this for two reasons: first, I'm lazy, and second, it makes it much easier to fit the large Allied star. Or is that just another way of saying I'm lazy?

According to the instructions, the headlights and guards should be fitted to the sides of the radiator cover before it is fitted to the hood assembly. I don't think this is a good idea though—if the joint isn't

perfect, then filling and sanding it is going to prove very difficult. I guess my experience building the

M3 made me a cynic. I leave the headlights and guards off until the rad cover is firmly in place. As it turns out, it is a perfect fit. All that

remains now is to fit the headlights and guards, which is a giant pain and causes much cursing whilst throwing myself onto

the floor flailing my arms and legs. In hindsight I wish I had just glued them on as the instructions suggested.

### Painting

Painting starts with the application of Tamiya's Surface Primer, which gives me a good base for airbrushing the camo colors. The entire model then gets an initial misting of Vallejo 924 Russian Infantry WWII. I don't take too much care with this step, since all I'm trying to do is just cover the primer. The next step is to spray on Lifecolor UA407 Panzer Uniform to the areas where the "Mickey Mouse" pattern is to be painted. This is a very dark gray that is perfect for replicating black in this scale. Next, I paint Humbrol Maskol onto the black areas to create the distinctive circular patterns. I try to copy the pattern on the instructions as closely as possible, but

they only include the left hand side view. The box top shows the right hand side, which looks to be just a mirror image, but I deviate a little

**13.** To start the painting process I give the entire model a misting of Vallejo Russian Infantry Uniform. Next I spray on Lifecolor Panzer Uniform to the areas where the "Mickey Mouse" pattern is to be painted. **14.** Humbrol Maskol is carefully painted on to the black areas to mask off the "ears." **15.** With the Maskol dry and the hood masked with tape, the entire model is airbrushed in Vallejo Brown Violet.







**16.** With the tape and Maskol removed, I am left with a neat camouflage scheme. **17.** I apply a coat of Future Wax prior to adding the decals, which are a combination of the ones supplied in the kit and others from Archer. **18.** I fully paint and weather the interior before completing the exterior painting and weathering. **19.** The windshield is masked off prior to misting on a dusty finish with my airbrush. **20.** For the dust I use Vallejo Matte Varnish with a tiny amount of Deck Tan. This mix dries to a nice translucent finish. **21 and 22.** At this stage the effect doesn't look very convincing, but once the hood has been airbrushed and some hand painted streaks have been added, it looks far more so—well, I think it does...



and add a few extra "ears." Once the Maskol dries, I give the whole model a solid coat of Vallejo 887 Brown Violet, followed by a lightened mix of this color to add some fading and streaking.

#### Gloss time

With the basic colors in place the next thing to do is to give the model a coat of Future Wax to prepare it for decals. If you haven't tried this stuff, then I highly recommend it. It can be sprayed through an airbrush without thinning and dries quickly to a tough, durable gloss finish that is perfect for applying waterslide decals and dry transfers. For the markings, I use Archer's U.S. Stars instead of the ones included in the kit, but everything else comes from the kit's decal sheet. All of them go on well with the aid of some Deco strong setting solution.

After the decals are in place, I apply Vallejo's excellent ModelAir Matte Varnish. I always thin this product about 50 percent with Vallejo's airbrush cleaner and turn the pressure on my compressor up to about 40 psi. This ensures an ultra-flat finish and nice even coverage.

#### Weathering time

I start the weathering process with the floor section of the fighting compartment using the whole arsenal of Mig Productions weathering products, including pigments, filters oil paints and the oil and

Grease Stain Mixture. These I add in numerous layers to help create depth. I find sticking to a set sequence for weathering and applying each stage only once doesn't give that random messy look that happens in real life. The trick is to make it look naturally random, without it becoming ugly and just plain nasty.

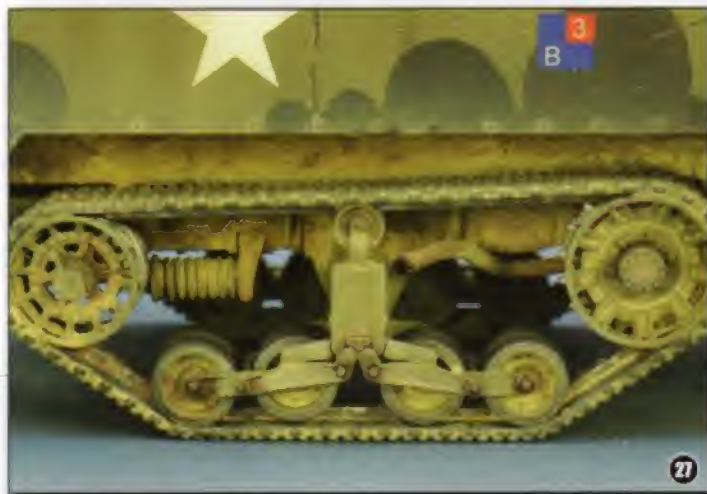
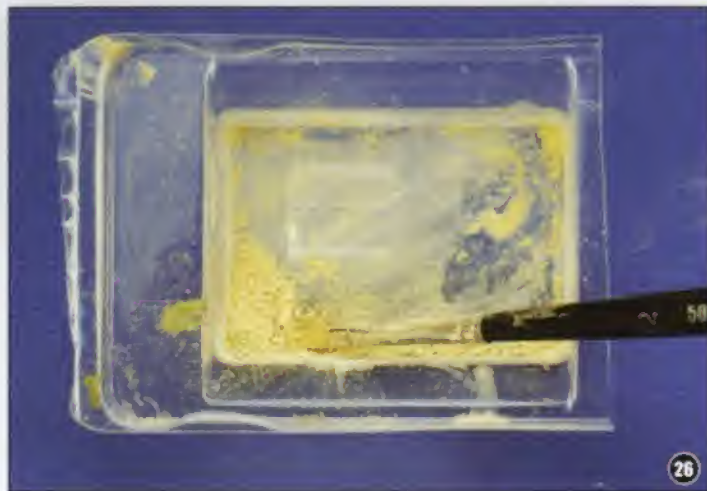
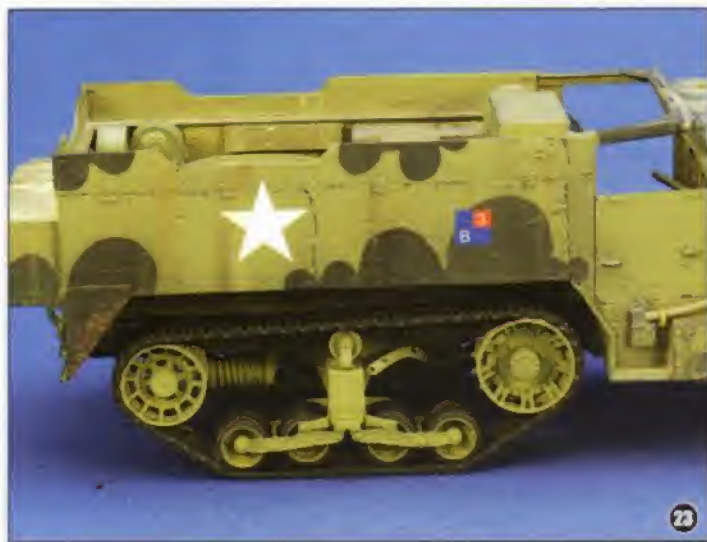
For the exterior I decide it best to keep the wear to the paint finish light. The vehicle is depicted during the Normandy campaign and therefore doesn't need to be completely covered in scratches, chipped paint and rust streaks. However, I do want to make the vehicle look dusty to help convey the dry summer of 1944 in northern France.

The pale beige-colored dust wash is a mixture of four different Mig pigments and Abteilung 502 oil paint thinned with white spirit. Using a fine tipped brush, I add this concoction as a pin wash around all raised details and panel lines. The wash flows onto certain horizontal areas with the help of a larger brush, which helps simulate the thin film that would have settled on all these surfaces. In reality the vehicle would be completely covered in dust, but since I want to show off the "Mickey Mouse" camo I keep it restrained, concentrating most of the dust on the windscreen and hood.

To add the dust to those areas, I first cut out two masking tape wiper arcs with the aid of a set of







**23.** I save the painting and weathering for last. The tracks and road wheels are painted by hand. **24.** The first stage of weathering involves adding a Sin Industries filter for dark green paint. **25 and 26.** The pigments and oil paint are mixed to replicate the light beige Normandy dust. **27.** With the pigments, oil and grease stains and the bare metal wear

added to the metal portions of the tracks, the suspension comes to life. **28.** Where the ammo belts feed into the machine guns, there is a noticeable gap. I correct this by adding a single turned brass .50 round from Mission Models to each gun. Unfortunately these rounds are longer than the kit items, but they look much better than just leaving a gap.

circle templates available from art stores. I then stick these onto the windscreens and mask off the surroundings to prevent any overspray. For the dust I use Vallejo Matte Varnish with tiny amount of 986 Deck Tan, which dries to a nice translucent finish. The next step is to airbrush dust onto the hood, using a larger proportion of Deck Tan. This dust is concentrated around the hinges and along the bottom of the

windshield. Before the paint has time to dry fully, I use a cotton swab dipped in water to remove some of the dust from the highest points on the hinges to simulate where it would have worn off.

As I mentioned earlier, I completely assemble the suspension before painting, so now that the rest of the model is finished I set about detail painting the running gear. Thankfully this doesn't prove too diffi-

cult. The tires and rubber tracks are painted in Life-color Panzer Uniform and the metal guide strips on the tracks are base coated in a suitable rust-brown color. With the basic painting done it is a simple matter to add some Mig P245 Brown for Dark Green filter followed by the oil paint and pigment mixture used on the rest of the model. Instead of thinning it with white spirit, however, I use Mig's Pigment Fixer





**29.** The boot prints on the hood are created by dipping Calibre-35 boot stamps in oil paint, then simply "walking them" across the vehicle renders cool-looking footprints.



**30.** Before painting I can't resist adding a photo-etch buckle and the end of the bucket retaining-strap, made from foil.

**31.** Adding a SMLE rifle, canteen, helmet and newspaper adds life to the vehicle and gives it that "lived in" look. **32.** The M45 multiple machine gun mount looks superb when finished. Note the brown finish on the barrels used to simulate the heat-tarnished finish, a result of prolonged firing. **33.** The Resicast No. 19 radio set and cage style aerial mount in place. Note also the brass butt plate on the rifle.

to help it adhere to the running gear.

#### Stow me, baby

I am of two minds regarding the stowage. I want to stow the M16 heavily as typical of Allied vehicles in Normandy, but I also don't want to hide the model's paint finish under a ton of stowage. In the end I strike a happy medium. All the stowage is from my spares box, included a tarp left over from the Blast Models set designed to fit on the M2 halftrack front fender. The oilcans and dented ammo box are from Resicast and the wooden crate, which I picked up at this year's AMPS show, is from Armand P. Bayardi.

#### Conclusion

Building this kit and comparing it to the Tamiya M16 is a perfect example of just how much injection molded modeling has progressed. This really is one of those models that looks fantastic out of the box. It has none of the fit problems that I encountered with the M3 GMC. I really enjoyed the construction, which then spurred me on to have fun with the painting and weathering. Thoroughly recommended.

—Spud Murphy



## MMIR RECCE

**Dragon M16 Multiple Gun Motor Carriage.** Kit number 6381. Suggested retail price \$54.95.

**Resicast 3mm clear lenses.** Set number 35.246. Suggested retail price \$4.25.

**Resicast No.19 Radio Set.** Set number 35.2317. Suggested retail price \$14.50.

**Resicast Damaged British boxes and tins.** Set number 35.2315. Suggested retail price \$21.75.

#### References

*Allied-Axis: The Photo Journal of the Second World War*, Issue 24. ".50-Caliber Multiple Gun Carriage M55" by David Doyle. Ampersand, 2009. Suggested retail price \$15.95.

*M2/M3 Half-Track, Armor Walk Around No. 4* by Jim Mesko. Squadron/Signal, 2004, ISBN 978-0897474801 Suggested retail price \$16.95.

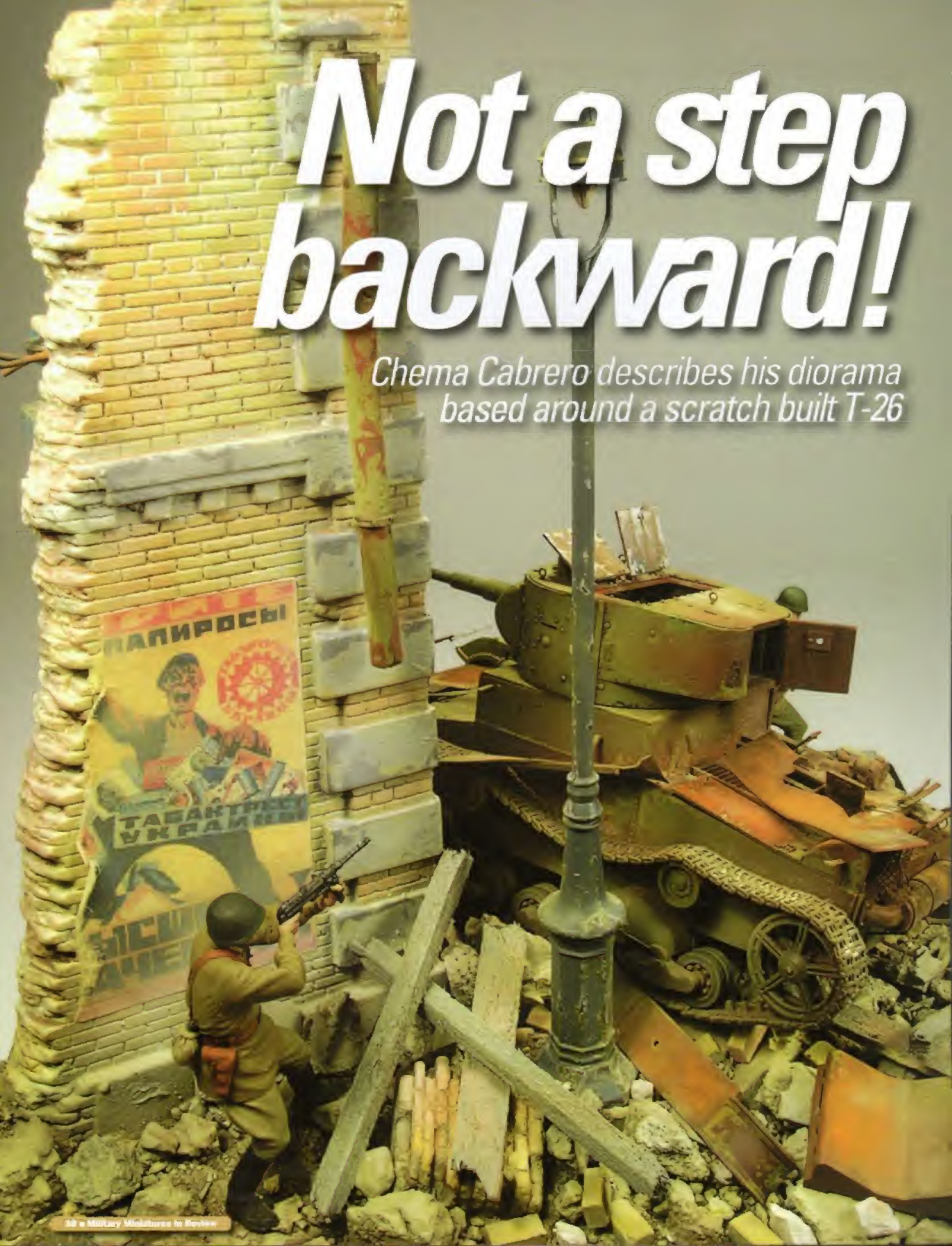
*Half-Track: A History of American Semi Tracked Vehicles* by R. P. Hunnicutt. Presidio, 2001, ISBN 978-0891417422. Suggested retail price \$80.00.

*U.S. Half-Tracks in Combat 1941-1945* by Steven J. Zaloga. Concord, 1999, ISBN 9623616546. Suggested retail price \$15.00.




# *Not a step backward!*

*Chema Cabrero describes his diorama based around a scratch built T-26*







**D**uring the early stages of Operation Barbarossa, the Red Army was caught off guard. In their desperate struggle to defend the Motherland, they were forced to use any armor they could get their hands on, including the already obsolete T-26 light tank.

The T-26 first saw service in 1931, when it was equipped with twin machine gun turrets. A 1933 redesign, which is the subject of this article, resulted in a larger single turret. During the Spanish Civil War, the Soviet government supplied about 280 T-26s in response to the Spanish Republicans' request for military aid. It was there used to good effect against the Panzer Is and CV-33s of Franco's Nationalist "Condor Legion." After the Spanish Civil War, the tank remained in active service for another 15 years, long past the time it had any real military significance.

The T-26 was hopelessly outclassed by the German machines that stormed eastward in June 1941. It was based on the British Vickers 6-ton tank and was armed with a modest but effective 45mm main gun, which at the time was one of the best small caliber anti-tank guns in use. However, its poor cross-country ability and thin armor made it increasingly vulnerable on the battlefield as tank technology advanced rapidly during WW2.

### The idea

The Soviet leadership ordered the Red Army not to take another step backward into the Motherland and to make every advance by the Nazis as costly as possible. This diorama is my attempt to depict the incredibly fierce fighting one of the many Soviet counterattacks. Set in a hypothetical village, it stars a T-26 that was destroyed during an earlier battle and now stands as a silent witness to the massive losses of men and machinery during that initial phase of Operation Barbarossa.

### Planning the model

It's no simple task to model the T-26 ever since Zvezda discontinued their version. If you're really desperate to build one, you can use Mirage's. Their kit isn't too bad and can, with a little work, be made into a decent model. However, because I want to represent a vehicle that has been knocked out, abandoned and burned, I have no choice but to opt for a full scratch build. I want to model my tank with open hatches to expose the interior and add some major battle damage, which more often than not is easier to build from scratch using scale thickness plastic card and brass. Fortunately, I am able to take full advantage of the excellent drawings from the Wydawnictwo's volume on the T-26, and from Pedro Andrada and Guillem Martí Pujol's collection of high-detail interior, period and restoration photographs of the tank. I am very grateful for their generosity, which truly helped me to complete my research for this model.

It takes lot of thought, planning and care to create a battle-damaged vehicle. You must first consider how, why and what exactly happened to it, and to take into account how much time elapsed between its initial destruction and the setting you wish to depict. In my case, a small-caliber projectile impacted the right side of the hull directly over the gasoline tank and the resulting fire affected virtually the entire vehicle. The violent explosions cast off parts and components from the tank's hull and suspension, but left the majority of the turret interior intact. This paradox can be seen in many wartime photos of destroyed tanks. Catastrophic damage to the major heavy components, which have been brutally displaced and deformed almost beyond recognition, contrasts with the lighter sheet metal components, which remain seemingly undamaged by either heat or blast.

### Making a wreck

I start construction by building the main hull using the plans in the Wydawnictwo book. For the suspension, I make the leaf springs with Evergreen plastic and take the road wheels from the Zvezda kit along with the drive sprockets and idler wheels from the Mirage kit. I detail these borrowed parts with nuts and bolts with the aid of my reference photographs. Working my way upwards, I scratch build the fenders and other small components from Evergreen 0.25 and 0.13mm sheet, taking care that all the components have the correct scale thickness. I am also careful to ensure that the parts that I deform to simulate battle damage look both realistic and interesting, which is at times a careful balancing act. Once the right side of the tank is finished, I add smaller details taken from both the Mirage and Zvezda kits.

If you study photos of wrecked armored vehicles to observe how sections of armor plate separate and fracture from impacts, you will notice that these breaks are often very clean—in fact (and how lucky for us), armor breaks in almost exactly the same way as plastic card snaps!

The impact hole of the shell has a characteristic lip, which I replicate using a combination of a soldering iron at low power setting and a mini-drill fitted with a jeweler's burr.

Scratch building some of the parts is laborious work. The upper rear hull, for example, seems to take forever because I want to display the engine deck with some of the hatches open or missing completely to expose interior components such as the oil cooler and gasoline and oil filler caps.

### Turret detailing

For the turret, I begin with the BT-5 turret from Zvezda kit. The first step is to carefully remove all of the inaccurate exterior detailing, including the many rivets, which I carefully shave off using a new blade in a scalpel. With the help of my references, I then set about reproducing the rivets using a small punch and die set, which perfectly

replicates the distinctive round-headed rivets. Once all the rivets are replaced, I finish detailing the rest of the turret exterior using a combination of plastic card strip, parts from Eduard's BT-5 set and some ModelKasten bolt heads.

I want to have the large turret hatch open since interior detailing will help convey an abandoned look. I begin by using the excellent BT-7 early version photo-etch set from Eduard (the BT-7 uses the same turret as the T-26). The rest of the interior (gun breech, seats, visor blocs, DT ammo racks and traverse mechanism) is scratch built. Some Grandt Line rivets and a length of photo-etch chain from my spares box provide the final details.

With both the inside and outside of the turret so nicely detailed, I decide it's only appropriate to replace the plastic kit barrel with one of those lovely turned aluminum ones from Jordi Rubio.

### Half track

For the left hand track I use the individual links injection-molded tracks from the Mirage kit. Although their level of detail is a far cry from ModelKasten or Friulmodellismo, they are still reasonable and they suit my needs perfectly.

At this point the assembly of the T-26 is complete and I get a real feel for how the final diorama will look. This is also my chance to make any changes. Sometimes it is only when the model is placed on the diorama (or even just on the base if no ground work has been started) that you can see if the vehicle complements the scene and if the placement of certain items such as hatches or sagging tracks makes logical sense—no items should be defying gravity! I know this may seem a little obsessive, but these seemingly minor details can make or break a diorama. The human eye will soon detect something that looks unnatural!

There are abundant resources on the Internet or in books for color photographs of burned and destroyed AFVs. There are thousand of images (from the war in Afghanistan and both Gulf Wars, for example) that provide the opportunity to study how fire and explosions affect different materials, from the various tones of rust on thick armor plate and thin sheet metal to the way chemical reactions from intense heat alter paint, glass and rubber components. While some color photographs from WW2 do exist, their true color value is practically zero. This is due to many factors, including the condition of the original image, the color distortion inherent in these early films and even the manipulation of the image for modern publishing purposes. Modern images do not pose nearly as many problems, and a burnt out tank looks much the same today as it did 70 years ago!

I will now let the photos and captions tell the rest of this story.





**1.** The turret requires extensive detailing. The original part lacks many rivets and some of the ones that are present are inaccurately placed. The level of detail on the roof and gun mantlet is exceptionally poor and needs considerable reworking. **2.** Due to the large turret hatches it is necessary to add some interior detailing. I could cheat and shut the hatches, but displaying them open helps

to convey an abandoned look. **3.** The interior details are added using a combination of scratch built parts, photo-etch from Eduard's BT-7 set and bits from my spares box. **4.** The tracks supplied in the Mirage kit have a sufficient level of detail for my purposes. Since I am only going to use one side, it would be a little too costly to buy expensive aftermarket items. **5.** Of the entire model, the







paint parts such as the oil cooler and some internal components. This creates interesting contrasts and a chipped, charred look. **10.** I also brush paint patches of green into recessed areas and around certain details. European modelers refer to this technique, which simulates flaked patches of paint, as "mapping." **11.** The model next receives a filter and wash to tone down and unify the base colors. **12.** After the filter and washes have sufficient time to dry, I repeat the mapping process with a lighter combination of Vallejo 857 Golden Olive, 953 Flat Yellow, 988 Khaki and 951 White. The more this process is repeated the more depth and visual interest the final finish will have. **13.** I add traces of white to the inside of the hatches, then apply brown and ochre oil paint rust streaks in vertical strokes. I blend these with a clean brush. **14.** The next step is to add the turret marking. I use Mig Productions dry-rub transfers.

**15.** I use pigments in both wet and dry form for a more realistic finish. I take care to place these dust effects in the most logical locations, especially the horizontal surfaces. **16.** To unify the T-26 with its surroundings, I reserve the final application of pigments until after it is in its position on the base.

engine deck is the most time consuming part to make, but I think the end results are worth the effort. While constructing the angled base, I make sure that all of the hatches and lids hang at the correct angle—I don't want them to defy gravity on the finished diorama. **6.** For the base coat/pre-shade, I use Gunze Sangyo's Hobby Color H84 Mahogany. This is a very dark brown with a reddish hue that provides a good starting point for a burnt out, rusting vehicle. **7.** Using different proportions of yellow ochre and orange, I begin to define and differentiate several areas to simulate how the heat from the fire has affected the various thicknesses of armor plate and sheet metal. **8.** For the Russian olive camouflage color, I used Palmer 1737 Avocado Green. Palmer is a brand of high-quality acrylic paints used in fine arts. This color is a very good match to my reference photos. **9.** Using a combination of gray Vallejo acrylics, I brush







17



18



19



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22



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24



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28



29



**17.** The backdrop for my scene is the MiniArt 35512 Corner Diorama. This building is the perfect shape and size to complement the scene without dominating it. It is important to consider the size and height ratios compared to the size of the base and vehicles to ensure a balanced composition. **18.** I carefully select the materials for the rubble—I don't want to simply drop a handful of cat litter and fix it with white glue! To achieve the most natural and realistic look I always consider different textures, sizes and arrangements. **19.** Barely visible beneath the debris are sections of vac-formed cobble stone road sections. These are available from most good hobby stores and can normally be found in the railroad section. **20.** The MiniArt buildings are vac-formed styrene and include interior detailing. For a rougher, more believable finish I apply some stucco texture to the interior wall and the brickwork with a stiff bristled brush. **21.** After priming the base with a neutral gray, I check for any mistakes. Priming is important to visually unify the finished piece and to highlight textures. **22.** While adding the rubble, I repeatedly place the tank onto the diorama to make

sure that it still sits correctly on the finished scene. **23.** To start painting the groundwork, I first air-brush the building with a light sand color and then cover the rubble in a brick red color. An airbrush is by far the quickest way to get paint into every nook and cranny. **24.** I highlight the brickwork by using a large flat brush and lighter tones of the base color. **25.** With khaki, yellow and white paints, I carefully pick out loose bricks scattered among the rubble. **26.** I map the building's facade with light and dark gray tones. I also pick out individual bricks in varying tones and apply pigments to the ledges. **27.** Parts such as the pipes, doors, window frames and beams are painted individually. Always keep in mind that the tones and hues should harmonize with the rest of the building. **28.** The groundwork is almost complete now. All that remains is to place the accessories and apply a final dusting with pigments once the tank and figures are in place. **29.** All of the accessories are painted and weathered with the same amount of care and attention as the tank and the figures. Note how realistic the worn paint effect looks on the door and window shutter.

## FIGURE PAINTING

In the following step-by-step photos, you can see the painting sequence used to complete the figures. The first step is paint the faces from start to finish before moving on to the uniforms, where all the detailing, creases and folds are carefully highlighted and shaded. Detail painting completes

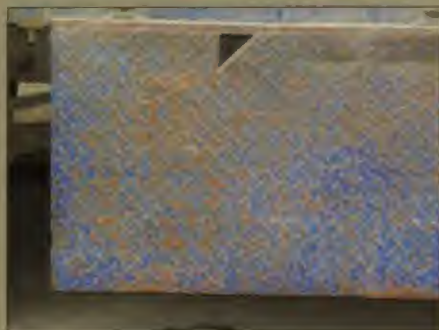
each figure. A steady hand is needed to pick out fine details such as webbing, buttons and insignias before tooling up with a favorite "shooter."





## References

How are these for some great random references? Most of us haven't got the time to pop over to Europe just to get some urban detailing photos for your latest diorama (for some reason the wife or partner can get a bit riled when its suggested!). Luckily Chema was spared not only the indignity of being in the doghouse with the wife, but also the embarrassment of being seen photographing junk in the street to the shouts of "geek" from passers-by.





## MMiR RECCE

**Zvesda BT-5 Soviet WW2 Light Tank.** Kit number ZVD-3507. Suggested retail price \$21.90.

**Eduard BT-7.** Set #35421. Suggested retail price \$14.95

**MiniArt Corner Diorama Base.** Kit number 35512. Suggested retail price \$25.95.

### References

*T-26 Vol. 2* by Janusz Ledwoch. Wydawnictwo, 2004. Item 197. Suggested retail price \$19.95.





# Drop Short

In the first part of our artillery triple bill, Spud tucks into the first of the Trumpeter kits: the M198 155mm Medium Towed Howitzer (Early Version)



**T**he M198 155mm howitzer has for many years been the U.S. Army and USMC's medium towed artillery piece. Development of the weapon began in 1968 when the U.S. military sought a lightweight replacement for the World War II era M114.

The Army received its first deliveries in 1979, and Marine artillery units began receiving theirs in 1982. Since entering production, over 1,600 units have been manufactured, with the final units coming out of Rock Island in 1992.

Weighing in at 15,760 pounds, it can hardly be

classed as lightweight. Nevertheless, the M198 is fully air-transportable by C-130, C-17 and C-5 aircraft and can be parachute deployed by them. The M198 can also be slung externally beneath CH-47D Chinook and CH-53E Super Stallion helicopters, making it perfect for Marine Expeditionary Units and Airborne divisions of the Army.

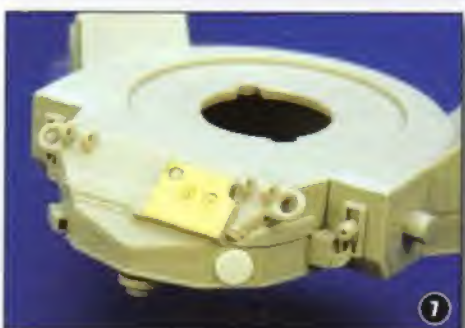
When it's not being flung out the back of a transport aircraft or hanging beneath some giant chopper, the M198 is normally hooked up behind the M939 6x6 5-ton truck or its replacement, the six-wheel drive M1083A1FMTV. It can be made ready in

a matter of moments thanks to the efficiency of its well-trained nine-man crew.

Using conventional ammunition, these artillery crews can reach and touch the bad guys with a 95-pound high-explosive projectile some 14 miles away, or over 18 miles with the help of rocket-assisted ammunition.

The M198 is currently being replaced by the BAE Systems M777 ultra-lightweight howitzer, which is smaller and weighs about half that of its predecessor while still being able to easily achieve the same firing rates and distances with greatly





**1.** In this close-up, the keyway designed to ensure correct alignment with the breech assembly is visible. The only problem is that Trumpeter forgot to put the corresponding lug on the breech. Doh! **2.** Trumpeter supplies both short and long gators for the elevation cylinders, but no mention is made of which length to use when modeling the gun in the lowered or firing position. For the record, the shorter ones are needed when the gun is elevated in the firing position. **3.** Four nicely detailed black vinyl tires are included. I rub them with a piece of Scotch-Brite to remove their toy-like shine. **4.** To ensure a tight fit, I use a clamp to hold the trunnions tight up against the circular traverse unit while the glue dries. **5** and **6.** The locating slots on the large rectangular plate need filling. I use a small amount of Squadron Green Putty. **7.** Trumpeter includes this small photo-etch

plate. There are two handles to mount onto the circles, but these can't be added until the model is painted and a decal placed over the plate. **8.** A small hole needs to be added to both trail arm hinge plates. I use some Mr. Surfacor 500 to fill the small gap around the lifting eye. **9.** At the base of the gun travel lock is a prominent weld seam. It is missing from the kit, but this is easily remedied with some thin plastic strip. I soften the strip with Tamiya Extra Thin Cement and texture it with the tip of a modeling knife. **10.** I give the brake accumulator housing the missing weld seam with the ultra-cool water-slide welds from Archer Fine Transfers. **11.** Some plastic card and rod, some solder wire and MR Models bolt heads add detail the overly simplified brake units. **12.** More solder wire replaces the under-scale wiring along the inner face of the right-hand trail arm.

improved accuracy over the one-ninety-eight. Word on the grapevine is that Trumpeter will be producing a kit of the M777 in the near future.

Trumpeter's M198 consists of just four main sprues, two separately bagged trail legs, four black vinyl tires, a small photo-etch fret and two pre-formed brass covers for the elevation tubes. In a separate bag, you also get a small waterslide decal sheet and 18 inches of thin string.

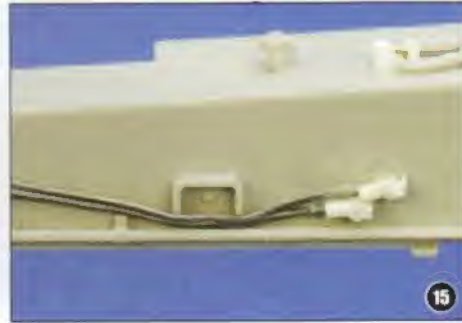
#### You make tubes

Construction starts with the main gun assembly and the various recoil and elevation cylinders. While assembling these parts, I come across a couple of problems. The first is that the forward part of the breech (part B11) has a location slot to ensure correct alignment between the barrel and main breech assembly. The problem is that Trumpeter forgot to mold the corresponding peg on the breech assembly. There are two options to get around this. The

first is to temporarily fit the muzzle brake and then line the breech up by eye. The second is to attach all of the recoil cylinders first, which will also help you get the correct alignment.

While dealing with the elevation cylinders you will notice that Trumpeter supplies two sets of protective gators (parts C9 and C5) for the dampers, a short pair and a longer pair. The problem here is that no mention is made in the instructions as to which ones are needed when it comes to building





**13.** I add plumbing and missing screw heads to the three rectangular conduit covers on the base unit. **14.** The small spring-loaded retaining lock is scratch built from plastic rod/strip and thin brass wire. I fit the cable reel before noticing they don't seem appear on the M198s in service. **15.** The two airline hoses from the brake accumulator

are made from more solder wire. These airlines connect the gun to the towing vehicle's brake system. **16.** The gun is now basically complete. I leave some smaller fitting off for ease of painting. From this you can see how large this thing is.

the gun in travel or firing mode. In reality, these gators get compressed when the gun tube is raised, so the shorter ones should be used if the gun is to be modeled in the firing position. This brings us to another problem: because these gators

are made from the same plastic as the rest of the kit, they can't be compressed—so without trimming them, the gun can only be assembled at one firing angle!

### Tasty trunnions

With the gun tube and all the cylinders assembled and the mold seams cleaned up, it's time to start putting together the large trunnions. This is pretty straightforward, except for the fact that you'll

stowed or fitted for travel. Additionally, after fitting the cable reel on the right-hand leg I realize I don't see any guns with this in place either! Oh well—at least it adds a bit of visual interest. To finish off, I add a missing weld seam using the one of those

photo-etch folding tool. I place this part safely aside to be fitted after painting and weathering is complete.

### A trail of two legs

The trail legs are molded as three-sided box

sections, and only the underside of each arm needs to be fitted to complete the structures. This is great because it prevents unsightly mold seams on any visible surfaces. It's now just a case of adding all the smaller fixtures and fittings, of which there are a surprisingly large amount. While checking my photo references, I don't see a single gun fitted with the smaller "dolly" wheels, either



need to grow an extra hand to keep them lined up while mating the two outer portions of the cradle! A little filler is needed on these parts before mounting them on either side of the gun tube assembly.

By this point I am now at stage 7, which involves fitting just seven parts that fix to the underside of the main assembly. Here again some filler is needed to cover the four locating slots on the bottom cover plate (part B33).

Now that the underside detailing is complete, I can flip over the meaty-looking gun and start adding all those little bits, including the sighting unit, elevation and traverse wheels and their associated linkages. I don't encounter any problems here, but do be careful when removing, handling and shaping the large perforated photo-etch part that fits over the top of the recoil cylinders. I shape mine by first rolling it around a Sharpie marker to get the correct radius, then folding the two side strips flat using a



**17.** After a coat of Mr. Surfacer 1200, I give the gun a base coat of Vallejo German Field Grey. This is a pretty close match straight from the bottle.

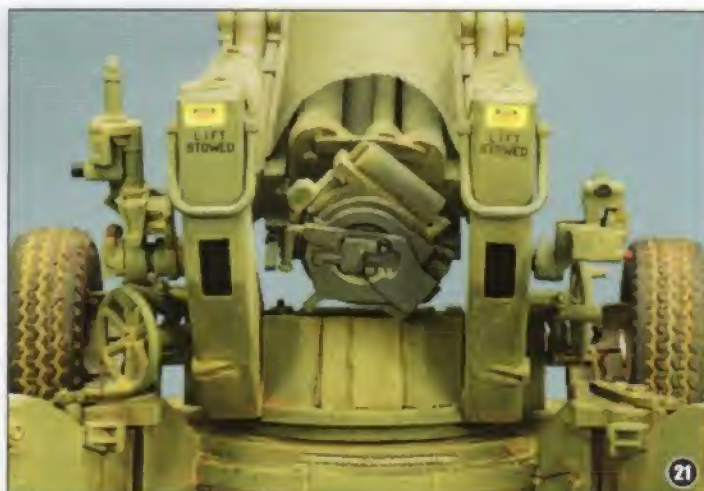
**18.** I add some fading and shading using mixes of the base color with Flat Flesh and Stone Grey.

**19.** A large portion of the gun barrel is left in bare metal finish. To replicate this, I first apply a coat of Games Workshop Chainmail mixed with a small amount of Vallejo Sepia Shadow. For the final touch, this area will be buffed with Humbrol Polished Steel.





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**20.** The dust covered grease and oil stains are all created using a combination of Mig Production's Pigments, Grease and Oil Stain Mix and some Neutral Wash. This effect is most commonly seen on IDF armor. **21.** Trumpeter has done a good job of replicating the complex looking breech. A small set of waterslide decals is included and these went very well with the aid of some decal setting solution. **22.** More Mig Pigments were used to replicate dirt in the tire treads. This time thinned with Pigment Fixer. **23.** Here we can see the completed gun barrel, after it has been buffed with Humbrol's Metalcote Polished Steel. This product offers a superbly realistic finish.



23

super neat Archer 3-D weld bead transfers, and some plumbing to the brake accumulator cover (part B23).

There are some areas that are rather lacking in detail, including the two brake caliper and mounting units for the main wheels. These are overly simplified and could really do with some extra work. Prime Portal photos come to the rescue, and with some plastic rod/strip and bolt heads I manage to make them resemble the real things a little more than Trumpeter does.

#### Tempting details

The plan from the start for these three reviews was to build them straight from the box, but that idea goes out the window once I look at Prime Portal's excellent reference photos. I can't help but study each photo in turn and use them to improve the level of detail. Overall, Trumpeter has done a very good job but there are some missing bolt heads and some under-scale bolts throughout the kit. I replace these with ones from Grandt Line and MR Models. I also add some missing wiring and a couple of weld seams.

#### Painting

Only two color scheme options are included. One is in plain forest green and the other is in the Europe (winter) MERDC scheme. As a side note the box top shows the gun painted in the new NATO three-color scheme, but no mention of this is made in the instructions. I really want to go for the MERDC option, but due to time constraints I take the quicker option and paint mine in Forest Green. I use Vallejo 830 German Field Grey for the base

color and add some fading effects by mixing a couple of drops of 955 Flat Flesh and 884 Stone Grey into the Field Grey. I keep the weathering subtle—just some chipping to show off the aluminum used in the construction of the trail legs. I also apply some Mig pigments; both wet and dry, to give the gun an "in use" look.

While studying my reference photos, I can't help but notice how many grease and oil stains covered the gun. I set about replicating these by using the excellent Mig Productions P410 Oil and Grease Stain Mixture. This is mixed with different shades from both their filter and pigment ranges to simulate both fresh lubricant and hydraulic-fluid leaks along with older dust covered stains to give the gun that used, but well-maintained look.


In retrospect, I think this paint scheme better shows off the model's detail than the multi-colored MERDC scheme, which can end up looking too messy on a piece of equipment with so many small surfaces. As a matter of interest the gun featured in the Prime Portal reference photos that I use is painted in the new NATO scheme. It features a replacement wheel that is painted in the Earth Brown color from the older MERDC four color cam-

ouflage scheme, and I like the look of that so much that I borrow the idea for mine! I'm also really pleased that the waterslide decals go on without any drama and look perfect under a final misting with matte varnish.

To finish off, I add a portion of a map to the right-hand trail leg and table to replicate a fuse setting or radio codes table. The green cloth tape used to fix the map in place is simply some thin strips of Tamiya tape painted an appropriate shade of green.

Now I just need to get hold of an Italeri M923 5-ton truck, some appropriate figures, and a ton of 155 ammo to give this model a purpose in life.

#### Conclusion

I really enjoyed this kit—it was a pleasant change from cleaning up track links and road wheels. Trumpeter has done a good job with the M198. It goes together well without too much filler, and the level of detail should satisfy most. I just hope that Trumpeter can amend the instructions to include some information about which length of gators to use for the gun in travel and firing mode. Other than, that I can highly recommend this kit. 

—Spud Murphy

## MMiR RECCE

**Trumpeter M198 155mm Medium Towed Howitzer (Early Version).** Kit number 2306. Kit graciously supplied by Trumpeter's U.S. import agent, Stevens International. Suggested retail price \$44.95.

#### References

Prime Portal. <http://www.primeportal.net>



# Teeny Thunder

In part two of our artillery triple review Jeff Kleinhenz builds the iconic M2A1 howitzer from Dragon Models



**T**he M2A1 105mm howitzer, widely renowned for its accuracy and power, was the mainstay light artillery piece for U.S. infantry throughout WW2. The 105 had both direct and indirect firing capabilities and could hurl a 34-pound high-explosive shell out to a maximum range of 12,200 yards. The famous deuce and a half truck served as a prime mover for this gun.

About 8,500 105s were produced by the Rock Island Arsenal during the war, with several modifications made during the production run. The first major change was the removal of the Warner brake system, after which the original M2 carriage was re-designated the M2A1. The breech ring on the original M2 howitzer was also modified for the M2A1 carriage.

The M2A2 version of the 105mm featured a different splinter shield. After WW2, the 105mm howitzer designation was changed to M101, and later changed again to M101A1. Another 10,000 were manufactured under these designations. The trusty 105mm continued to serve with U.S. forces in Vietnam and in the arsenals of other countries for years after that.

Dragon's new 105mm Howitzer M2A1 and

Carriage M2A1 represents a mid-war production variant in widespread use from 1943 onward—a good call on Dragon's part since that is when most 105s were seeing a lot of action. Backdating the gun to M2 standard is easy enough. Just add the battery box and wiring for the Warner brakes. There are also some unused parts on the sprues, including the M2A2 splinter shield and axle, which suggests that other variants will be released in the future.

## Keeping things simple

I really like to keep things simple, so this model is built almost right out of the box. Like most artillery pieces in 1:35 scale, this little bad boy is pretty busy with a lot of small parts.

The instruction sheet has a mere six steps, but some of them are really complex. With a few notable exceptions, I follow the assembly sequence in the instructions. You'll want to decide early on whether you want to pose your gun in the firing or the travel position. Because I have an ambition to throw mine behind a cool prime mover one of these days, I go with the tow position option.

Construction kicks off with the barrel and breech subassembly. This goes pretty smoothly, but

there are a couple of things that require a little extra attention. I flatten out the face of collar part A4 so that the metal barrel end (MA1) has a snugger fit. I use a little filler putty to unify breech parts A23 and A24, and replace the bolt on the center top with a Grandt Line bolt head.

The breechblock operating handle is molded into the breechblock—hopefully one of the aftermarket companies will develop a quick fix for this so that the gun can be posed with the breechblock open. I leave the barrel/breech subassembly loose until the painting stages. It snaps in place on the gun slide quite snugly anyway.

From the barrel and breech, I move on to the gun slide and trunnion subassemblies. All of the little round hand wheels pop off at least once during construction and painting, so you may want to leave these for last. The same goes for the sighting devices. Speaking of sights, one thing I notice is that the instructions are a little vague when it comes to assembly and placement for both the direct and indirect fire instruments. The multi-part subassemblies are very well detailed but a little fiddly and prone to breaking off once they are attached. Good reference pictures definitely come in handy for the





**1 and 2.** The splinter shield for the M2A1 carriage is one of the nicest parts of the kit. Note the delicate rivet head detail on both sides. **3.** The base for the azimuth crank needs a little filler to fit properly into the main axle. Like all other parts of the kit, the molding here is crisp and detail definition is well executed even though most of this subassembly is hidden when the model is complete.

**4.** Dragon provides a metal barrel. The breechblock is a two-part assembly, but the breechblock operating handle is molded onto it. **5.** Some filling and sanding is necessary to fit the breechblock halves. **6.** The finished right side. The firing lanyard is made from brass wire and a teardrop antenna blob from AFV Club's Stryker. **7.** It's fairly simple to reposition the trailer hitch for towing: flip the part over, trim off the small pip on the far end, reapply it on the left side with styrene rod and cement in place. **8.** The directions are a little vague when it comes to parts placement for the sights. Here is a close-up of the direct fire sight on the right-hand side. **9.** A detail of the indirect-fire sight on the left side of the carriage. The indirect-fire sight is cemented onto a small shelf on the barrel slide rather than the carriage itself. **10.** I pose my gun in the transport mode, thinking that I might hitch it to a prime mover sometime in the future.



exact location and alignment of these parts (I use the WWP book, which has great close-up shots). This is especially true for attaching the indirect fire sight on the left side. The mounting location has very little surface area and too much extra cement here will freeze up your elevating mechanism. Even with my references, I think I made a bit of a boo-boo with the indirect fire sight. This subassembly should be aligned vertically, not tilted with the barrel as it is in my pictures.

The gun slide parts A13 and A43 need a little filler putty to cover up the center seam both top and bottom. The cover plate at the end of the gun slide (part A40) seems a little undersized in comparison to photos. The outer edges should overlap the end of the slide assembly. Accuracy nuts may want to make their own out of plastic sheet (or dried boogers).

After the trunnion and gun slide, things finish up with the carriage, shield and wheels. For the lower carriage, I drill holes in part B2 where the trailing arm locking pins go in. The splinter shield is a little thick but quite nicely detailed. It's plastic, so what should you expect, right? I leave this off until the

upper and lower carriage subassemblies are together. I also skip ahead in the instruction sequence and install the travel lock (part B18) before actually installing the shield. Leaving the shield off makes attaching the lower carriage, trailing arms and travel lock easier. I also add a small length of photo-etch chain to the sight box (part B4). The shield supports are thin and a little fiddly to position properly, but a good set of tweezers and sparing applications of Tamiya Extra Thin work for me. While working on step 4, I decide to leave off the carriage wheels until painting is complete.

The trailing arms require a little filler along the seams where the upper and lower parts go together. One detail

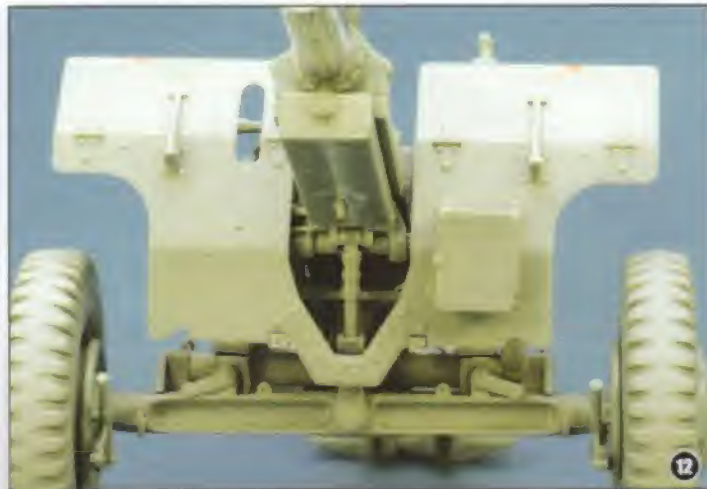
from the instructions I notice is that the orientation of the tools on the left trailing arm (parts C2 and C18) is transposed compared to my reference photos. No biggie. I install the trailing arms in the travel position with superglue so that I can get a quick, sure attachment without a lot of jiggling around while waiting for it to dry. Some teeny photo-etch chains added to

the locking pin (parts C5) after it's in place finishes off this area.

I flip over the tow hook (part C27) so that it's in the proper position for towing. One small adjustment I make here is to







**11.** The only detail parts I add are some small photo-etch chains to the trailing arm locking pins and the sight storage box on the front of the splinter shield. **12.** The barrel slide and the trailing arms also need some filling and sanding. The only other detailing work consists of drilling small holes in various parts where they are missing. **13.** Dragon provides four figures along with the kit. I build mine according to the instructions, but the ammo pouches and web gear make these troopers look a little

overburdened. **14.** The base coat of my 105 is Tamiya OD highlighted with Deck Tan. The chips and scratches are Vallejo OD lightened with Flesh for the first layer and German Camo Black Brown for areas of deeper wear. **15.** A light application of Mig pigments mixed with buff oil paint dirties up the lower parts of the gun carriage, wheels and shield. I keep it to a minimum to avoid clogging up the detail.

shave off the locating nub on the rear end of the part and replace it on the opposite side with a bit of plastic rod. After this, I drill out the missing holes on either side of the locking flange.

#### The finish line

The finish for my 105 is fairly straightforward. I start off by painting the barrel, carriage, and wheels separately. I wait to do the final assembly of these

parts until just before I start weathering.

Next I spray a base coat of Tamiya XF-1 Flat Black followed by good ol' XF-62 Olive Drab. Highlights were applied using a mix of Tamiya OD and Deck tan. A thin coat of Future goes on last to protect the airbrushed paint.

I brush paint thin coats of Vallejo Model Air 043 Olive Drab on several areas like the top of the breech and the barrel support for a little pizzazz.

The gun sights are painted khaki for the same reason. The tires get a coat of Model Air 056 Panzer Black. Why? To make 'em black!

Now, on to the weathering. First, I apply a wash made up of Winsor & Newton 447 Olive Green and 337 Lamp Black (from their Winton Oils line) mixed with turpenoid. Then, I dry brush some 502 Abteilung 035 Buff. These two steps help to unify the colors and bring out all of the kit's great detail. The





**16.** A close-up of the finished details from the crewman's point of view. To give this paint job more pizzazz, I hand paint the sights with Vallejo Khaki and the barrel retainer and top of the breechblock with a light OD. The metallic effects are accomplished with Citadel Miniatures metallics and Humbrol Polished Steel. **17.** Light dry brushing and chipping bring out the detail before the addition of the final washes and stains. **18.** I tone down all of the wear and weathering effects using various shades of brown artist oils thinned with turpentine for stains and detail washes. **19.** A rare color photo of the 105 from David Doyle's vast collection. Also see our extensive coverage of the gun in Allied-Axis 24.



tires also get a dry brush of Lukas 0190 Warm Grey.

I make the chips using the Vallejo Olive Drab mixed with some 955 Flat Flesh for the light green areas and 822 German Camouflage Black Brown for the dark areas. The metallic effects are accomplished with Citadel 61-57 Boltgun Metal and Humbrol 27003 Polished Steel. I use various shades of brown oil paint for detail washing, streaking and stains. I hit the tire tread pattern with a thick wash mixture of pigments and oils to represent ground in dirt. Finally, I add small amounts of Mig pigments (P234 Rubble Dust and P037 Gulf War Sand) to the lower carriage and wheels.

This kit also comes with four figures. These are basically the dudes from Dragon's U.S. 101st Airborne Division Bastogne 1944 set with new arms and some 105 shells thrown in. They're decent enough, but you might want to ditch all of the web gear ammo pouches, especially the BAR Gunner

pouches on figure A. Mine are built according to the instructions, so you can probably see what I mean. They look a little overburdened for artillery troops, right? The 105 normally had a crew of eight, but at least Dragon gets you off to a good start.

To sum up, I am pretty impressed with this gun.

It makes for a quick and simple project. Overall accuracy and the level of detail are quite nice. The fit and parts location are fiddly in a few places, but hey, that's part of the fun. It will be interesting to see what Dragon has in store for the 105.

—Jeff Kleinhenz

## MMIR RECCE

**Dragon 105mm Howitzer M2A1 and Carriage M2A1.** Kit Number 6499. Suggested retail price \$27.95. Kit graciously provided by Dragon USA.

### References

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*M101A1 105mm Howitzer in Detail* by Frantisek Koran and Jan Horak. Wings and Wheels, 2009, ISBN 978-80-86416-80-9.

Prime Portal: M101 105mm Howitzer Walk Around. [www.primeportal.net](http://www.primeportal.net)

Toadman's Tank Pictures: M2A2/M101 105mm howitzer. [www.toadmantankpictures.com](http://www.toadmantankpictures.com)



# B4 Plastic

The final part of our artillery triple review finds Pat wrestling with Trumpeter's 203mm Russian howitzer



**I** like big guns, don't you? Case in point: The Soviet 203mm howitzer from WW2. It's big—real big. Plus, it's got TRACKS! Cool, huh? You take a perfectly good gun and stick a set of tracks on it. It doesn't get any better than that!

The 203 was developed by the Soviet military industrial complex in the 1930's, back when things large and riveted were all the rage. I can't be absolutely sure, but I'll bet good money that we can thank a commie for its design.

The massive size of this piece has always attracted me (in a completely platonic way, of course) and I consider myself fortunate to have had the opportunity to build MB Models' resin version of the gun several years ago. In fact, my pal Fish built the master pattern for that one. I have fond memories of our trip to Aberdeen with the guys to photograph and measure the beast. As I recall, Fish built a giant set of calipers to measure the gun barrel and other large components without having to climb on the gun (always a big no-no at APG). They were made from plywood and had large vinyl distance markings.

I think Fish's master pattern was, well, masterful—all those rivets and interesting curves. I was (and am) quite pleased with the kit. I still have it in the display case right behind me!

Allow me to digress for a moment and mention why APG had a Soviet 203mm howitzer in the first place. It seems that U.S. troops captured the gun in

Normandy from the Germans. Apparently, the organic artillery battalion of the 352nd Infantry Division was entirely equipped with captured Soviet artillery. You may recall that the 352nd was the one that reeked havoc on Omaha Beach from the top down. I've seen photos of 152mm guns that were captured at the time, but never a 203. Still, it's an interesting bit of trivia.

There was once another cottage industry kit of this gun available from the Japanese firm Pit Road. This thing was all white metal, but drop dead gorgeous. They made two versions: the 203mm and the lighter 152mm barreled version. Both kits were also heinously expensive. Pit Road plays a big part in this story. You see, the plastic kit that is the subject of this article is actually based Pit Road's version. This is no case of industrial espionage, though. In fact, Pit Road has been cooperating with Trumpeter for some time, turning their old multi-media kits into styrene.

## And now: The Model

Yes, there is a plastic model at the heart of this feature. Knowing the quality of the master pattern, I was very anxious to take a crack at this kit. How hard could it be, right? Right? RIGHT?

Okay, so this was a challenging project and it did try my patience at times. I have been told that I'm spoiled, but perhaps we are all a little spoiled from all of the accumulated modeling technology that has emerged over the years. I'll just get on with the story.

## Under the carriage

Construction starts with the undercarriage, which in this case is a large part of the model. I tend to skip around in the instructions, especially when there are small parts to be added to larger parts. These always seem to break off at inopportune moments, so I generally leave them for last.

Four large subassemblies make up the undercarriage. Two of these are girders that form the sides, each of which is composed of two halves (parts B11 and A6). My parts are severely warped and your parts may be too. For some odd reason, I don't think that this will be a problem later on. WRONG! It's best to take the time to remedy this now, for reasons which I will elucidate later on.

There are nifty photo-etch steps provided for the side of the undercarriage. I construct them but do not add them at this stage.

I am somewhat shocked at this point to find that several of the undercarriage components fit together poorly. Not only that, but their seams cross over some of the delicate and pervasive rivet detail. This is quite suckish. To solve the problem, I carefully add two-part epoxy putty into the gaps and smooth it with a brush moistened with solvent. I use the Aves brand (they offer their own solvent, too). This prevents me from having to sand away any of the detail. Not the best solution, but unfortunately the only one available.

But wait—there is also an enormous gap at the





**1.** The completed limber. The articulated joint at the rear is a nice touch. **2.** The carriage in progress. The warp is not that noticeable in this photo, but it can be seen on the right-hand section. **3.** That nasty gap in the spade base. **4.** More nastiness at the front end of the carriage. **5.** A hunk of styrene plugs it up. The winch assembly is in

place here and the assembly has been turned upside down. **6** and **7.** The completed gun base. There are a lot of tubes in there! **8** and **9.** The right and left side trunnions. The rivet detail is nice, but there is thick flash across them. The large holes seen here are for the installation of the seats.

front of the carriage. Although this one is in a much less conspicuous place, I need to use sheet styrene to close it up. Fortunately there is a twin winch assembly in this area that helps hide problem. This goes together okay, but its parts are a bit loose. I use the black string supplied in the kit to create the cable for the winches.

## Limber

While I am struggling to emotionally recover from that ordeal, I turn my attention to the limber assembly. This is missing from the old MB Models kit, although it is in the Pit Road offering. There is not much to assemble here, but it is still slightly problematic. Many of the parts have thick mold seams and copious amounts of flash. Not a problem! I happen to own a great supply of sanding sticks and sharp X-Acto blades.

Trumpeter provides vinyl tires for the large steel wheels. These have a raised area that is supposed to fit around a corresponding channel in the wheels. However, the raised area is too large and does not fit. I turn the tires inside out and remove it with a fresh razor blade. Success!

The limber has a kickstand (part B3) which will support the hitch when not attached to a towing vehicle. It's not mentioned in the instructions, but this piece can be placed in the raised position. I'm building mine as a stand-alone piece, so I leave the kickstand down.

## Barrel rolls

Next it's on to the barrel and its various sub-assemblies. The barrel is broken down into two large pieces. There are both lower and upper recuperator assemblies, as well as the breech. It is a fairly complex assembly and I would dearly love to tell you that everything fits perfectly, but alas it does not.

The various cylinder halves do not align well and require copious amount of liquid cement to close. Even with the famous "squeeze" technique, there is still much sanding required to hide the seams.

The very worst part is the tapered portion of the barrel (parts F14 and F16). The opening of the barrel is cast on one half (part F16), but someone at Trumpeter forgot to tool the back end of the barrel cap! I can't remember when I last saw a flub like this on a plastic kit. Attacking it with file solves the problem, but I nevertheless remain deeply offended. Okay, maybe just mildly annoyed.

I will admit that after all this consternation; the finished subassembly does look quite handsome. There is even a piece of photo-etch to represent the rifling inside the barrel.

## Next thing you know...

I'm working on the trunnions. These two assemblies contain all the various cranks and linkages for controlling the gun. Each of the trunnions is broken down into two halves. The detail on these parts is impressive, but there is thick flash on the bottom of

each part. I have no problems with any of the smaller parts and again, the finished subassemblies are quite attractive.

At this point, the instructions call for the installation of all of the subassemblies onto the carriage, but I only do a single part (D26). I feel that with all the poor fit, I would have a real disaster on my hands if that single part objected to its position.

## Runaway tracks

Unlike most (if any) other howitzers, this bad boy has tracks. There are two nearly identical sponson units on either side of the gun, each connected by the axle. These are the most complex parts of the model, with each subassembly containing over 20 parts. It starts off with bogie assemblies, two for each side, then an idler wheel and sprocket.

The fit is loose for all the components, but there are also big fit problems with the bogie wheels. They are ever so slightly oversized and so force the sponson halves open. More importantly, the idler wheel should absolutely not be glued in place at this time. In fact, go ahead and cut off that locating pin right now. Go on, I'll wait. There is no way to get the tracks on if the idler is in place. There just won't be enough links. I of course I don't know this in advance, but I am happy to share my newfound wisdom with you. This should save you some additional frustration.

Due to the poor fit, a big ol' gap appears on the top of each finished sponson. I disguise this as a





**10.** Oh, there are some parts here—yes sir. And this is just one side! **11.** A completed bogie assembly. **12.** All the parts in prior to adding the second sponson half. Whatever you do, don't add the idler! **13.** I disguise the gaps in the sponson tops as welds using Mr. Dissolved Putty. **14.** The tracks are coming ... I have just glued up these sections

and they are still wet. **15.** Nice holes, huh? **16.** One of the filled and repaired seat backs. I use Grandt Line rivets to replace the kit's. **17.** Trumpeter provides photo-etch platforms for the areas behind the breech. They sit on styrene bases. **18.** The photo-etch steps for the sponsons.

weld bead using Gunze Sangyo Mr. Dissolved Putty.

The tracks are link-to-link and I strongly suggest abandoning the instructions at this point and just winging it. Trust me, the method illustrated is fruitless. It's best to start out by separating the links into two piles. I make two straight sections for the top and the bottom and add links to fit around either end. By placing the idler against the curved track run while it is still flexible, I am able to get the appropriate sag.

I am only able to do this to one side, as I have already added the sprocket. It takes a half link on the bottom to close the run on that side. Certainly this is the least desirable way to solve the problem!

### Sticking it all together

Once the track sponsons are dry, they can be installed on the carriage. My model is configured in travel mode, so I mount the sponsons with the limber in place to ensure the proper sit of the gun.

At this point, it's time to put all the smaller stuff in place. This includes some more photo-etch parts in the form of steps behind the breech and on the sides of each sponson. The parts behind the breech have nifty posts and fit well. The steps for the sponsons have a rather large notch to receive the steps and it helps to hold the photo-etch part to the top of the notch to hide any gap.

The seats are the last major aspect of the construction. These go together quite well and all of the

parts are nicely detailed. However (there appear to be quite a few "however's" in this review), there are heinous knockout marks in several of the parts. Some are underneath the seat, which is no big whoop, but a couple are right out in the open. In addition, the positioning holes for the seat pads go clean through the seat back. Cool! I fill these and the most obvious knockout marks with sheet styrene (yes, they are that deep) and superglue. Sanding out the marks on the seat back ruins the 12 rivets in place there. I restore them with a slightly larger Grandt Line item.

When all this happy hoo-ha is complete, I install the seat subassemblies on the trunnions. It's not indicated in the instructions, but each seat is canted outwards slightly. The best reference for this is the painting guide supplied in the kit, which has a nice top view of the gun.

A shining spot in this drama is the shell-lifting crane. This is a finely rendered subassembly that is installed on the left side of the carriage. Aside from one awkwardly rendered part (the crank handle), the finished crane look great and collapses neatly alongside the carriage.

The final thing to endure is the construction and installation of the shell carts and their rack. The rack is installed just behind the breech and it can be removed. When the gun is in firing mode, the rack is replaced with a wooden platform. The good news is that the rack itself is a single part (E22). Four

delicate handles are added, one to each corner and that's that. The problem is that it doesn't fit between the two rails of the carriage. This is due to the warped side rails that I didn't bother to fix at the top of this fun-fest, so beware. It takes both Spud and me to shoe horn the rack into place. He holds open the rails and I drop in the rack. Admittedly, this does immediately cure the warp.

The shell carts are next. There are two and they are identical. They build up okay and look good when complete, but (of course) they do not fit into the racks. The axle shafts are too wide. Shortening them does the trick—about a millimeter on each will do it. I do not glue the carts into the rack to make them easier to paint and weather.

A few shells are included, but I don't use them because of the whole travel mode thing.

### Cover up

Now that construction is complete, I can take some time to reassess my life. After some intense discussions with my therapist, I finally decide that I must paint the model.

I begin with an overall coat of Tamiya XF-1 Flat Black followed by layers of Tamiya XF-13 J.A. Green. To create highlights, I add Tamiya XF-3 Yellow. I always keep a small supply of the Tamiya primary colors around. They create a much more reliable mix than their tertiary colors, such as Dark Yellow. This is especially important when applying extreme





highlights. It takes much less paint to create the lighter shades. I confine the highlights to the bulbous bits of the gun—anything with a curve to it.

I give the model a light coat of Future acrylic wax in anticipation of using the kit's water slide decals supplied, but as luck would have it, I have lost them. Luckily they are pretty simple, containing just a slogan for the barrel.

To replace them, I select a slogan from a Mig Productions dry transfer sheet, rubbing identical ones on either side of the barrel. Just to be a wise-ass, I stick a red star on both sides of the barrel base. I then repaint the tracks in black and dry brush them with Humbrol 53 Gunmetal enamel.

Chipping comes next, and I confine this to the upper surfaces, where I plan to keep the dirt effects less extreme. Some areas are chipped more severely, like the gun breech and the shell carts. Metal effects are created with graphite powder and a color pencil, with special attention paid to the gun breech and any surface that makes contact with shells or feet.

Limited dry brushing accentuates the thousands of rivets on the model. I follow that with a dark oil wash, and then carefully apply a more concentrated version of it to further accentuate the teeny details. This takes a while, as there are a lot of them!

I must say that my opinion of this kit starts to change somewhat at this stage. Many of the smaller details that I ignored due to all the construction problems start to emerge.

Final weathering is accomplished with the judicious application of Mig pigments on the lower portion of the model. I use both wet and dry techniques to build up dirt and mud, especially on the tracks, their sponsons and the entrenching spade. Several light coats of Vallejo 520 Matte Varnish complete the model.

#### How I feel now

I end up quite a bit less resentful after construction than I was during it. There are major flaws in

**19.** I love these screw heads! The right-hand seat is also visible here. **20.** The massive breech. The shell carts can be seen in the foreground. **21.** The completed and painted limber. I add some Mig Oil and Grease Stain Mixture to the articulated joint for effect. **22.** Considering that this tracked vehicle was literally dragged across the ground, it would have accumulated quite a bit of dirt. I probably could even have gone a bit further. **23.** The sight side of the gun. I assume the large levers were to help brake the massive gun during travel. No cushions in the Worker's Paradise! **24.** The secret compartment and the ready round cradle at the rear of the carriage. **25.** The shell crane is one of the nicest parts of the model. It collapses neatly for travel mode.

the design of this kit, but the high level of detail makes me love it anyway. An update kit would really help. A replacement barrel and a few other small parts would be a big plus. I should also say that warping difficulties do vary from kit to kit.

Overall, I am pleased to have the finished kit on

the shelf and I may even revisit it in the near future. The prospect of a towing vehicle and other accessories could convince me to build another one in firing mode. I'll keep my fingers crossed for that update!

—Pat Stansell

## MMiR RECCE

**Trumpeter Soviet B-4 M1931 203mm Howitzer.** Kit number 02307. Suggested retail price \$69.95. Kit graciously supplied by the U.S. import agent, Stevens International.

#### References

*The Military Machine, Number 2.* König Verlag, 1997. Sorry to do this to ya, but this is the most complete reference that I have found on the weapon. I believe that it is out of print, but I'm hoping that the material may pop up again.

Googling will yield positive results. They are many 203s on display as monuments, so walk arounds do abound. This one is particularly nice: [http://svsm.org/gallery/203mm\\_B-4\\_Family](http://svsm.org/gallery/203mm_B-4_Family) Prime Portal also has good coverage. Beware photos of the Aberdeen example wherever you find it, because it was modified by the Germans during WW2.



# Uncle Buck



**H**ave you ever had one of those moments when you see a picture, or even a real vehicle, and say to yourself, "I have GOT to build that"? In April 2005, Pat Stansell and I had the pleasure of attending the Armor Modeling and Preservation Society (AMPS) annual show, which was held that year at the World War II Vehicle Museum and Learning Center in Hubbard, Ohio. I believe this was the first time that AMPS had taken the show on the road. As it turned out, the Hubbard Museum held a fantastic collection of restored, running U.S. vehicles from WW2. The interior of the museum had several wonderfully restored Shermans, an M18, M10 and a Pershing, to name a few, but the fun didn't end there. Out back were more morsels of mili-

tary goodies, albeit in varying degrees of decay and disrepair. This is where I first laid eyes on "Buck" and, well, fell in armor amore. That's when I said to myself, "I have GOT to build that!"

Buck, as you can see, is an M4 High Speed Tractor of the "155 variety." From the looks of it, it had not seen a fresh coat of paint in quite some time. Apparently someone named "Buck" (I'm assuming) decided to leave his mark and dress up the old workhorse with some fresh graffiti. Seeing

this old vehicle rusting and seemingly forgotten and abandoned out there stirred something inside me to build a 1:35 scale replica.

I had purchased the very nice but rather expensive PSP M4 HST the year before at the AMPS Show, but when Hobby Boss released their version, I knew



# Tom Jett's award winning derelict M4 High Speed Tractor gets real rusty!



the time had come to build "Buck."

## Getting started

The Hobby Boss M4 High Speed Tractor (155mm/8-in./240mm) is a great little kit and a steal for the price, given the cost of some plastic kits nowadays. In the box, there are 267 injection-molded parts in gray styrene, 16 clear parts with masks for painting, a fret of 50 photo-etch parts, nice rubber band-style tracks (T48) and a length of nylon twine for the winch cable. The parts are nicely molded and require only a little cleanup. There are a couple of sink marks, but they are no real problems to fix. Although some HSTs used the T48 track, the majority of photographs show them sporting T49 Three-Bar-Cleat. Since "Buck" was found trackless in the back yard, however, I don't need to worry about that. The focus of this article is not a standard kit review, but rather a description of how I attempted to reproduce the rusted appearance of "Buck."



1. I use two sets of Eduard Sherman photo-etch for the pioneer tool attachments 2. The painted winch assembly and engine compartment. The cable is made from twisted solder.

Before I go any further, though, I'd be remiss if I didn't extend a big thank you to Mike Rinaldi, who, in addition to being an all-around great person, is a very patient teacher. Mike's long-distance email advice was invaluable in helping me complete this project. Thanks Mike! Ok, ok, before everyone shouts, "GET A ROOM, YOU TWO!"—Let's get our rust on.

## A word about the paint

Shortly after my ah-ha moment in the back yard at the Hubbard Museum, I began to think about how I could pull off this kind of a paint job. It is easily the most ambitious painting project I have done to date. Once again, my buddy Mike Rinaldi was a huge help. He turned me on to the Lifecolor line of acrylic paints from Italy. These paints, although a bit pricey and hard to find, are fantastic. They thin with water, are wonderfully easy to airbrush and dry quickly to an absolutely dead flat finish. The sets that I use for this project are CS-11 U.S. Army Olive Drab Paint Set and CS-10 Dust and Rust Pigment Set. Each set contains six 22ml bottles. The Dust and Rust set includes the following colors: UA701 Rust Dark Shadow, UA702 Rust Base Color, UA703 Rust Light Shadow 1, UA704 Rust Light Shadow 2, UA705 Dust Type 1 and UA706 Dust Type 2. Both of these sets have a retail price of about \$28.00.

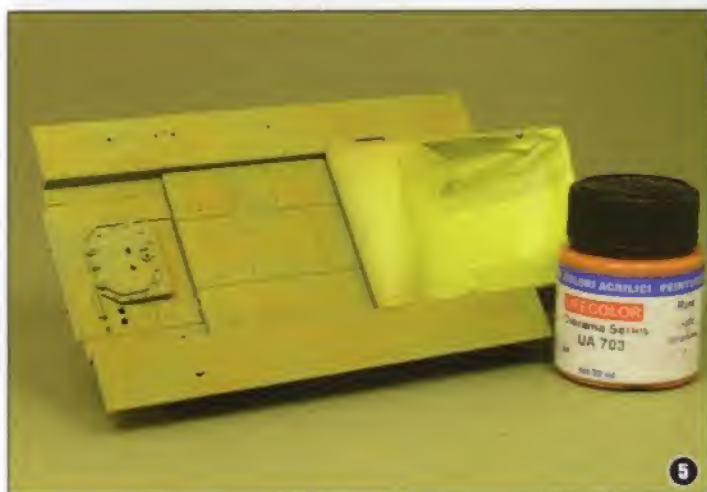
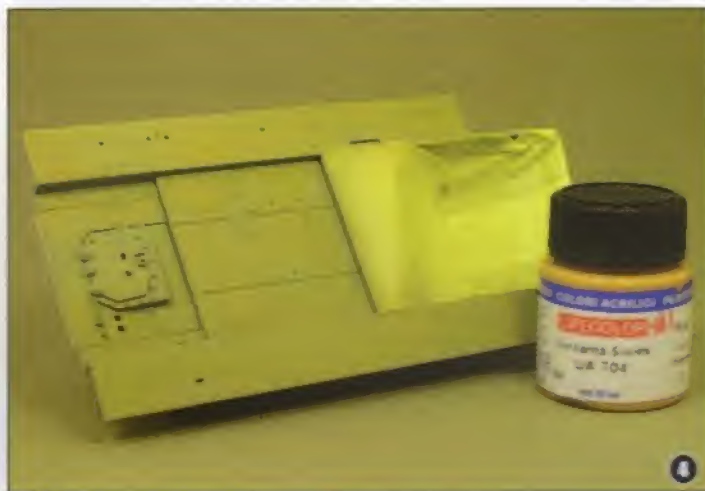
## Subassemblies

I know from the outset that this is not going to be your standard build-it-then-paint-it sort of project. Since the kit has a completely exposed and detailed cab interior, it's clear that I'll have to build the kit in subassemblies and then completely paint and weather them individually before bringing them all together at the end.

The first subassembly is the lower hull tub, engine and cab floor. The Waukesha 145GZ 6-cylinder gasoline engine and radiator assembly are nicely detailed out of the box. However, since they're going to be completely visible (Buck had no roof over the engine compartment) I decide to add a few additional wires and hoses to dress things up a little. The kit's photo-etch fret does not contain a screen for the fan housing, which is a real shame since this







is such a major feature of the right side of the vehicle. I remove the molded-on screen and replace it with a piece of scale screen cut to fit the interior of the housing. This immediately gave the fan housing some much-needed dimension.

The lower hull tub is a one-piece molding to which I add the floor panels and the stowage box next to the driver's seat. Again, there are some big ejector pin marks to fill. I don't like the seats in the kit, so I scratch build new seat frames from styrene and cushions from Aves Apoxie Sculpt. I then build the Winch motor and fuel tank per the kit instructions, but make my own cable by twisting together three strands of .18 gauge solder. This looks very

convincing and is easily manipulated and draped. I leave off the cable hook from the end of the solder cable, which allows me to fray the ends nicely.

The cab is a little more difficult to clean up. The most annoying aspect of the kit is that the roof of the cab is peppered with locating holes for the roof-mounted tools and equipment that go all the way through the plastic. To make matters worse, the holes are huge! Since the entire interior will be completely visible, roof and all, I obviously have to fix this. Using styrene rod, I plug each of the holes, shave off the protruding rod and then sand smooth. In some areas, particularly on the roof's interior, some putty is required to make it completely smooth.

Once this is finished, I replace the various roof fittings and tie-down points using two sets of Eduard M4 photo-etch. On the roof, the ring mount needs some work. The kit part has recessed panel lines at each corner, but these should actually be raised welds. To fix this, I simply fill the recessed channel and add the weld bead using Archer's wonderful Surface Detail Perfect Weld Bead set. Next comes the dashboard and instrument panel. Once again, I rely on Archer, using their superb M4 HST Instrument panel/placard sheet. Archer's line of instrument dials and placards is fantastic—it's just a shame that they are hard to see once the cab for the tractor is on. But hey, at least I know they're there!



3. Mig Green for Light Green applied over base coat of Lifecolor Faded OD. 4. Rusting begins by airbrushing rust in a mottled pattern. 5. Rust Shadow 1 comes next. 6. Using a 3M sponge and Rust Base color, I layer on the rusted scratches and scrapes. 7. Still using the sponge, I stipple on Rust Dark Shadow to represent the old rust. 8. A mixture of Mig Neutral and Brown washes are applied to increase depth and highlight surface details. 9. The same process is used to detail the dashboard. Thin solder is used for electrical lines. 10. The finished cab with the fantastic Lifecolor Dust and Rust series. 11. The "Buck" graffiti was applied with an off-white Prismacolor pencil, using a circular motion. 12. Buck is starting to come alive! Dry fitting the cab and lower hull. 13. More dry fitting. The engine compartment roof is painted but not used. 14. The model is now buttoned up. The Apoxie-Sculpt tarps and rags are added and sculpted in place.



I finish up the interior of the cab with some rudimentary wiring and other fittings to the dash using my references as a guide. Since it would be impossible to paint and weather these once they are installed on the kit, even with the cab wide open, I set them aside for painting.

#### Let there be rust

Rather than repeat myself throughout the following description of adding rust to the subassemblies, I'll just say up front that I use a hair-dryer all along to speed up the drying process.

Although I paint each of the subassemblies individually, I start out by shooting all the major hull parts with a coat of Lifecolor UA222 Olive Drab, and then over-spray with a mottled coat of Lifecolor UA223 Faded Olive Drab Type 1. Once that dries, I apply a few filters using the excellent Mig P247 Allied Filter set.

Starting with the lower hull, I begin the rusting effect using Lifecolor's excellent Dust and Rust set. I thin some Rust Light Shadow 2, a bright rust color, and airbrush it on, making sure to keep the application random. I repeat this with Rust Light Shadow 1, which results in a good overall appearance of light surface rust. Then, I thin small amounts of the same color in a paint pallet and use a 3-0 brush to apply it around bolts and other raised details.

The process now switches from the airbrush to a 3M Scotch-Brite pad from the grocery store. I cut a small piece and use it to begin the process of applying the darker rust tones. To do this, I load it up with Rust Base Color and blot the excess onto a paper towel before moving to the model. It's important to work on small areas at a time and to apply the paint at random, but also to concentrate on areas you'd expect to see more wear and tear and hence more severe exposure to the elements.

I repeat this process using the last color in the set, Dark Rust Shadow. To get the effect right, I apply the dark rust colors using a light blotting motion with the pad (for the exterior roof of the cab I modify this technique a little, as I'll describe in a moment). I continue to layer on various dark rust effects with the sponge until I am satisfied with the results, and then I add a few more filters and some subtle pin washes to bring out more of the surface details. I used these same techniques to weather the seat frames so that everything will be homogeneous when it is all finally put together. Once again, be sure to work a



little at a time and don't try to do too much too quickly. I really can't emphasize this enough.

As I mentioned, the technique used on the exterior roof is a little different. What I am going for here is a more severe, streaked effect. To achieve this, I start out with the process mentioned above but go a step further and finish off the last layers of the Dark Rust Shadow by dragging or pulling the sponge down. This is what results in the layered effect, which is particularly apparent above the windcreens and along the sides of the roof and door panels.

#### Ammo box

The ammo box is built per the kit's instructions, but it requires a lot of cleanup. The box is riddled





**15.** The completed model after filter and pigment applications. The cab is strewn with various pieces of junk, some rusted I-beam, the screen from one side of the engine compartment and an old fire extinguisher. A barrel and wooden crate from Armand Bayardi provide added texture and color to the small vignette. The weed is from my garden.

**16.** Scale lumber added to the ammo box enhances the derelict feel of the piece. The grass is from Silfor's Buffalo Grass line.



with knock-out pin marks that need to be filled and sanded. I do not include the round storage plates inside the box. I want to accurately convey the bright red appearance of the box that is visible in the photographs I took of Buck. I thin out sections of the box sides and grind out the rusted sections, being careful not to go overboard. I also replace the tie-down loops with photo-etch and add some rudimentary wiring for the rear lights. For the paint job, I use a mix of Tamiya XF-7 Red and XF-9 Hull Red. Using the highly scientific TLAR (That Looks About Right) method of mixing colors, I start off with a base coat of Hull Red and gradually add more Flat Red until I am satisfied with the final results.

#### Throw a tarp over it!

One thing that I know will be a real eye-catcher is the bright blue nylon tarp hanging out of Buck's right side. This is going to give this model a huge splash of color and provide a vivid contrast to the otherwise drab, rusty effect of the vehicle. I've made tarps with Apoxie Sculpt before, so I stick with the familiar and use the same method here. This is really pretty easy to do, and surfing the web can provide some great tutorials on the technique. But in short, I roll out a small blob of Apoxie Sculpt (but any good two-part epoxy putty will do the trick) until it is thin enough to work with but not so thin that it becomes too fragile. The only trick here is to liberally (and often) sprinkle the Apoxie Sculpt with talcum powder to prevent it sticking to the roller or the surface it's being rolled out on. Once it's thin enough, I cut it to the right size and shape with a sharp knife. I let the putty continue to harden a little longer to make it less prone to tear, but still malleable enough to cram into the interior and then sculpt and form the folds and wrinkles. Once the cramming and sculpting is done, I press into the putty all the junk that clutters the cab's interior. These include an engine screen and I-beam. I then let it cure completely before painting.

The paint is a custom mix of Testors Model Master 35183 Bright Blue and 15102 True Blue. I first prime the tarp with this mixture and then highlight it with a lightened shade of the mixture that I make by adding a little gloss white. Once it's all dry, the tarp is treated to a few washes using Mig P222 Neutral Wash.




#### Final weathering

Despite the fact that the real Buck sat still for God knows how long, the general appearance of the vehicle when I saw it was still pretty clean. The amount of dust and grime was minimal, since whatever accumulated would have washed off after repeated rains over the years it sat out in the open. My approach to weathering, therefore, has to be

somewhat restrained.

Keeping this in mind, I use several products from Mig Productions: Neutral Wash, P221 Brown Wash and P220 Dark Wash. I apply each of these very sparingly and randomly around the details on the roof, sides and running gear. Once I am happy with the washes, I apply a very light coating of dust using a mix of Mig P027 Light Dust And P028 Europe Dust pigments. A darker mix of pigments is used on the ammo box, particularly around the louvers.

Well, that pretty much wraps it up. I am really pleased with how it all turned out, especially given the fact that this was my first attempt at creating a rusted-out hulk. This project really took my painting skills to an entirely new level. After reading more about some emerging and exciting new techniques for weathering and distressing paint, I'm anxious to tackle another project like this, perhaps in a larger scale... 1:16? 

—Tom Jett

## MMIR RECCE

### Hobby Boss M4 High Speed Tractor

(155mm/8-in./240mm). Kit number 82408. Suggested retail price \$44.95.

Lifecolor Dust & Rust Pigment Set. Item number LC-CS-10.

Lifecolor U.S. Army Olive Drab Paint Set. Item number CS-11.

Lifecolor products are available in the U.S. from Pacific Coast Models

Archer Surface Detail Weld Bead set. Set number AR88005. Suggested retail price \$14.95.

#### References

*High Speed, A Visual History of the U.S. Army's Tracked Artillery Prime Movers* by David Doyle, Ampersand Publishing, 2006. ISBN: 0-9773781-0-1. I thought I'd better mention this; after all I was walking with Pat when I took the picture!

**Authors Note:** Unfortunately, since visiting the World War II Vehicle Museum and Learning Center in Hubbard, Ohio in 2005, the museum has closed its doors. I read in an online forum somewhere that much of the collection was sold to a collector in Florida. Alas, I do not know what has become of "Buck," or if he still sits alone in Hubbard to further suffer the ravages of time.



# Hound of the Dragoons

Rick Lawler builds Bronco's T17E1 Staghound "wheeled tank"



Virtually every American vehicle built during the Second World War served with the U.S. Armed Forces in some capacity. The Staghound armored car is a notable exception. Although it was designed for and accepted into service by the U.S. Army, it was never actually used in the United States. Almost the entirety of its considerable production run went to the Commonwealth, whose armed forces were far more likely than the Americans to use heavy armored cars in combat rather than strictly as reconnaissance vehicles.

Chevrolet began to produce the Staghound, or T17E1, in 1941. The truck weighed nearly 14 tons—more than the M3 light tank—and was therefore classified by the Ordnance Board as a “wheeled tank.” The vehicle appealed to the British, who thus far had been unable to develop a suitable heavy armored car design. In February 1942, they placed their first order for 2,000 units. In total, the British ordered 2,687 Staghound armored cars and 789 Staghound AA vehicles (the T17E2), which had open turrets and twin M2HB .50 caliber machine guns.

## The kit

The Bronco T17E1 Staghound Mk I has 295 olive drab plastic parts, 17 clear plastic parts, two photo-

etch frets, a turned metal 37mm barrel and seven markings options. The nine pages of instructions contain large, exploded diagrams, with parts indicated by number and arrows. These diagrams are fairly complex, so take care to ensure that you have indeed completed all the necessary work before proceeding to the next step. The parts are generally crisp in detail with little or no flash or filling required.

## Construction

Construction begins with the lower hull sides. I encounter few problems other than the large leaf springs, which are assembled by gluing two halves together (parts A36/A33 and A37/A34). These have some protrusion marks on their faces that need to be cleaned up before they will fit—and even then there is a fairly sizable gap that needs filling and sanding. The remainder of the suspension is straightforward. Interestingly, certain suspension linkages on both the front and rear are designated as optional items, perhaps because they will be somewhat hidden behind the large tires. I choose to assemble these items anyway because they enhance the appearance of the underside.

The kit provides the large wheels in two plastic

halves that have the correct hub detail on both the inner and outer faces. I replace the kit tires with a superior set from Royal Models. Note that the front and rear hubs have a different pattern; the instructions show the proper configuration.

The large auxiliary fuel tanks on either side of the hull are defining features of the Staghound. Reference photos show a number of field configurations for these external tanks. Many crews opted to use this space for additional external stowage. I use both tanks, a decision that leads to extensive use of putty and sanding to fill the seams. The photo-etch retaining straps are easy to shape—I simply wrap them around the drum. The attachment points, however, are a little tricky. You have to fold the end of the photo-etch strap around a piece of stretched sprue, then thread that through the top and bottom retaining bolts (parts D35 and A28). Once assembled, though, the tanks and straps look very authentic.

Assembly moves along quickly. The vehicle really begins to take shape as I add more surface details to the hull, including some small photo-etch straps and brackets for the pioneer tools. The instructions, however, are at times confusing. The diagram on page 4, for example, calls for the placement of two horizontal brackets on the rear hull plate (part C9) but does not specify their part numbers until page 6.





1. Bronco supplies photo-etch retaining straps for the fuel drums. These are a little tricky to assemble but look very good once completed. 2. Bronco calls for all the small fixtures to be fitted to the hull sides before the actual hull is assembled. Note the filler needed on the fuel drums. 3. To help shape the delicate photo-etch headlight guards, plastic formers are included on one of the sprues. 4. The turret is very well-detailed and includes foundry numbers, separate periscopes and flush head screws for the mantlet. 5. The prominent casting seam around the rear of the turret was added using plastic card and textured with a hobby knife. 6. The only downside of the turret is that the molding is very smooth. I stipple on Mr. Surfacer 1000 to create the cast metal effect. 7. Although the kit wheels are good, I replace them with resin items from Royal Models that have slightly superior detail. 8. Apart from the turret, which is still to be textured, the model is built almost entirely out of the box. The only other addition is the bow mounted .30-cal machine gun, which is from a Dragon Gen2 figure set. 9. Most of the stowage comes from the Legend set designed specifically for this vehicle. The tarpaulins are made from rolled-out Milliput.

some spare photo-etch.

### Turret interior

The kit's interior details are rather sparse, but a seven-part breech with a breech guard is included. The gun barrel is made up of two parts. There is a short plastic outer sleeve that will accept either a plastic barrel with a separate muzzle cap or the one-piece aluminum barrel. Strangely, the aluminum barrel is not specifically illustrated in the instructions. The interior details also include a No. 19 radio with photo-etch guard that fits inside the turret bustle. However, I omit this item because it will be virtually invisible when the model is finished. The main gun mounting plate has very well-defined screw detail and fits perfectly into position. The main armament is designed to remain moveable but I find my gun mountings to be quite loose, so I end up gluing the gun to a fixed elevation.

### Clutter bug

No respectable Staghound would be complete without the requisite on-board stowage and clutter. Period photos consistently show a chaotic mess of personal items lashed to the sides of these buggies—it seems remarkable that they were able to engage in combat at all! The various boxes, crates, and containers on the engine deck are from Legend's Staghound stowage set, which also includes some nicely detailed jerrycans. I scratch build the two stowage boxes for the front fenders and a small jerrycan rack for the left rear fender. For the blankets and tarps, I roll out very thin sheets of Milliput on a glass surface sprinkled with talcum powder. The powder prevents the Milliput from

Also on page 4, the rear stowage box between the exhausts is identified as part D24 but on the following page is identified as photo-etch part P5. Both of these parts are included in the kit, and I first install the plastic part only to remove it later in favor of the more detailed photo-etch option.

Moving on to the front glacis plate, I substitute the kit .30-caliber bow machine gun with a more finely detailed Dragon Gen2 part from my spares box. There is a nice pair of photo-etch brush guards for the front lights. As a bonus, sprue D contains a small jig for bending the photo-etch light guards to the proper shape proves to be very handy indeed. The fit of the glacis to the hull section and driver's plates is very precise and requires no filling. The front hatches and vision ports for the driver's compartment are separate pieces, so you have the option of portraying them open or closed. The periscopes are multi-piece affairs that you can rotate and position as you choose.

To finish the lower hull, I have to attach the large fenders and the mirrors. The fenders have a number of location tabs for various stowed items

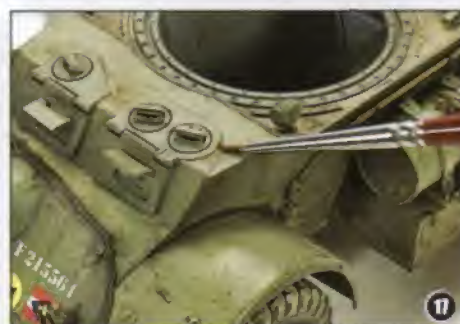
such as extra fuel cans. I decide to fill and sand these points because I want to use the Legend Staghound stowage set along with some scratch built items. I add some small tie-downs to various points on the fenders with some spare photo-etch. I initially plan to use the delicate mirrors, and go so far as to actually fit them onto the fenders, but in the end I decide to portray my Staghound sans mirrors, which was common for vehicles of this period.

I give the turret a slightly coarser texture by accentuating the seam along its rear with a thin strip of Evergreen roughed up with my hobby knife. I then dab Gunze Sangyo Mr. Surfacer 1000 over the entire turret surface with an old brush. The turret crew hatches are hinged, so they too can be left open or closed. Other details on the turret roof are the separate clear periscopes with their own mountings, which again allows for a variety of positions, and the separate mortar on the right side. Also included are a searchlight with a separate mounting post, aerial mountings and a AA .30-caliber mounting post. I replace the kit's co-axial machine gun with a Dragon Gen2 offering, and its mounts with





**10.** Following a primer coat of Mr. Surfacer 1000 some Tamiya Japanese Army Green is airbrushed around details and into recessed areas as a pre-shading layer. **11.** The overall base color is a mix of Vallejo Brown Violet and Middlestone. For the highlights, I add German Yellow and White to the base color. **12.** I air-brush dust and dirt onto the underside and around the lower hull using Tamiya Buff. **13.** Scruffs and scratches are brush painted using Vallejo Brown Violet before adding filters using Vallejo Buff and German Camo Bright Green. These filters need to be thinned heavily before applying. **14.** Before decal application the model was given a gloss coat using Future Wax. The decals are snuggled down with a few drops of Microscale Micro Sol. **15.** The hard, glossy surface that results from airbrushing the Future is ideal for dot filtering. For this vehicle, I use bright green, yellow ochre and white artist oils. I first dampen the surface with odorless Turpenoid and then apply small dots of the oils in a somewhat random pattern over a small area. **16.** The next step is to work the paint into the surface until nearly all traces of color are gone. At this point, it is important to allow the surface to dry completely, because the colors will return and intensify. You may repeat this



process until you achieve the desired effect. **17.** With the dot filtering complete, I can now start working pigments into the recesses. I usually dissolve pigments in Turpenoid and apply them wet. Remember, it is important to allow the pigments to dry completely between applications, because their appearance changes considerably. **18.** Finished and awaiting orders!

sticking—and as an added bonus makes my work-bench smell baby-bottom fresh. When the sheets are thin enough, I cut them to the desired size with a sharp blade and then roll them to shape. I generally try to leave an interesting wrinkle or loose flap open to give the bundle added visual interest. To finish, I make straps out thin strips of tracing paper and buckles out of spare photo-etch. Once the Milliput bundles are in place, I push other stowage items into their surface for a natural appearance. To round out the lived-in look, I add a pair of beautifully sculpted chaps from Nemrod to occupy my vehicle.

### Painting and weathering

Before I begin to paint, I give the model a thorough coat of Mr. Surfacer 1000 to unify the various construction materials and also to provide a durable base. I then pre-shade shadowy areas and panel lines with Tamiya XF-13 J.A. Green thinned with a few drops of Tamiya Lacquer Thinner. The overall base color is a mix of Vallejo 887 Brown Violet and 882 Middlestone. For the highlights, I add 806 Lazur/German Yellow and 951 White to the base color. I also add dust and dirt to the underside, the lower hull and around the fenders with Vallejo gray and tan colors and Tamiya XF-57 Buff.

I start the weathering process by applying scratches and chips with Vallejo Brown Violet using a very fine brush. Be careful not to go overboard, but

also keep in mind that much of this initial layer will fade away during the subsequent weathering steps. I follow the chips with a light acrylic filter of Vallejo 833 German Camo Bright Green and 976 Buff thinned for use in my airbrush. I periodically change the proportions of these colors for results that vary from very green to almost entirely buff. The filters subtly change the base color while also adding depth to the finish.

After these first filters, I apply a tight layer of Future Wax over the entire model to seal the base work and also to prepare the surfaces for the markings. During my research I found a number of photographs showing vehicles of the 12th Manitoba Dragoons, so I am pleased to see that the markings for this unit are included on the decal sheet. The decals go on easily and settle well, but I add a small touch of Microscale Micro Sol for added insurance. After the decals are set and dry, I seal

them with another light mist of Future.

The hard, glossy surface that results from the clear coat is ideal for dot filtering. For this vehicle, I use bright green, yellow ochre and white artist oils. I first dampen the surface with odorless Turpenoid and then apply small dots of the oils in a somewhat random pattern over a small area. With a soft, wide brush, I work the paint into the surface until nearly all traces of color are gone. At this point, it is important to allow the surface to dry completely, because the colors







**19.** Stowage really helps to bring the model to life. The tarpaulin under the boxes is created by rolling out epoxy putty. Colors are kept muted in keeping with the theme of an overall drab finish. **20.** You gotta admit it, whether you're a fan of allied armor or not, this is one cool looking vehicle. A coat of Future before applying filters and washes creates the realistic sheen. **21.** It's hard to believe in this photo that the stowage all comes as a single casting. It's from Legend's stowage set specifically designed for this kit. Careful painting brings out the very best in this impressive lump of resin. **22.** In this close-up of the turret side, you can really see how

well the texturing on the turret has turned out thanks to Mr. Surfacer 1000. This is stippled on using an old brush. **23.** Although the overall finish is drab, the markings supplied in the kit for add that much-needed splash of color. They denote a vehicle belonging to the 12th Manitoba Dragoons. Subtle use of oil paints on the glacis plate adds plenty of visual interest.

will return and intensify. You may repeat this process until you achieve the desired effect.

Already, after only a small amount of weathering, the vehicle takes on a realistic appearance. Some of the earlier scratches and scrapes have faded completely, while others are integrated into the finish. I notice that many vehicles, particularly Allied ones, do not have a completely matte finish but rather exhibit a certain polished sheen. This is the look that I am trying to replicate. The earlier coat of Future left the vehicle much too shiny, but after a little work with the acrylic filters and the artist oils the high gloss finish has toned down. By using restraint with the artist oils and the subsequent pigments, I am able to maintain the level of luster that I want. The end result is a realistic metallic sheen that closely resembles the vehicles in my

reference photos.

After the dot filters dry completely, weathering

begins in earnest. Recently, I started using Mig Productions 502 Abteilung artist oils and they are quickly becoming a favorite. Using artist oils is slow work, but the results are well worth the time and effort. For this project, I use 502 Abteilung 125 Light Mud and 130 Dark Mud straight from the tube. I work my way around the vehicle, dabbing and blending the oils into the corners and cracks where dirt and grime would naturally accumulate. I slowly move outward to include the surface areas and panels. Once complete, the oils provide an excellent color platform for the next step in the weathering process: Mig pigments.

I usually dissolve pigments in Turpenoid and apply them wet. Much like the artist oils, I start in the corners and other dirty areas then work my way outward. When doing a wet application, it is important to allow the pigments to dry completely between applications, because





their appearance changes considerably. To maintain color consistency, I limit myself to only 3 or 4 pigments, but I continually vary the mix and concentration. Variances in tone and texture help to add depth and interest to the finished model. I keep each layer of pigment very thin for a gradual build-up. Occasionally, I set certain layers with Mig Pigment Fixer so that I can continue to work on an area without disturbing the underlying effects. Near the end of the pigment application phase, I reapply pin washes in certain locations to re-establish any details lost during the process. I add more stains and spills around auxiliary fuel tanks with Titan brand Asphalt and 502 Abteilung 120 Primer Red oils.

I always carefully consider where to place stowage. After a little trial and error, I settle on a position for my pile of gear. I sculpt a tarp to place beneath the stowage, which helps the boxes and crates look firmly settled in place. I paint the onboard gear with a variety of Vallejo acrylics. It is particularly challenging to maintain visual interest on single color vehicles. In this case, I want to maintain the overall drab theme and avoid any bright splashes of color. To this end, I spray the entire load with Vallejo Brown Violet. Using a brush, I then pick out individual items using different filters that all have a Brown Violet base. For example, I add German Camo Bright Green for the jerrycans and 985 Prussian Blue to highlight a container.

#### Manitoba men


This is the first time I have used Nemrod figures, and I am very pleased with the quality and detail. I paint the figures exclusively with Vallejo Model Color acrylics. I am still a novice when it comes to figure painting, so I use a very basic method: I paint

the whole figure with a medium base color, then add darken and lighten the base for shadows and highlights. I'm not entirely satisfied with the results, but practice makes perfect! Fortunately, the figures are not the focal point of my project.

#### Base

I envision a scene centered firmly on the Staghound, in which the commander and driver are catching their bearings. For this, I need only a simple roadway—just enough to provide a context for the weathering on the vehicle. I build the base structure by pouring plaster into a mold. The roadbed and earth are also textured plaster, and

the tree is a root from the backyard. I paint the base with brownish gray tones and then add a wash with raw umber artist oils. Over this, I liberally apply Mig pigments, using the same colors that I used on the Staghound. The ground cover is a combination of Silfor grass tufts and small weeds and bits from the yard.

And with that I'm finished! This is essentially an out-of-the-box project. Bronco has engineered and produced an excellent representation of the Staghound that goes together easily, allowing me to revel in the simple pleasures of building and painting a model. 

—Rick Lawler

## MMIR RECCE

**Bronco T17E1 Staghound A/C Mk 1 (Late Production).** Kit number CB-35011. Suggested retail price \$59.95

**Legend Staghound Stowage Set.** Set number LF1157. Suggested retail price \$34.00.

**Nemrod British Staghound Crew #1.** Set number 35074. Suggested retail price \$27.95

**Royal Model Staghound Wheels.** Set number 558. Suggested retail price \$24.95.

**Dragon U.S. Armored Infantry Gen2.** Set number 6366. Suggested retail price \$16.95.

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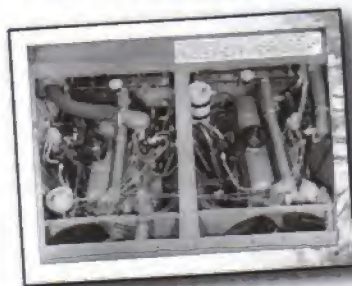
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# A PEEK AT WHAT'S NEW ON THE FIGURE FRONT

## Alpine

Alpine has been serving up a heapin' helping of Germans lately. In 1:35 scale, we have a duo in early war uniforms. **35081, German Infantry Officer (1)** wears an M36 or M40 tunic and officer's flared trousers. The only difference between the M36 and M40 tunic is that the collar was dark green on the M36 and field gray on the M40. The trousers were originally issued in charcoal gray and later in field gray. You can choose between two helmeted heads, one with and one without a camouflage cover. **35082, German Infantry NCO (2)** wears the uniform commonly seen on German infantry from 1939 to 1942. The M36 or M40 tunic was the same as the officer's and the trousers were also initially charcoal gray and later field gray. Two heads are included, one with the M35 helmet and another with the overseas service cap. These two are available together as 35083, German Infantry Set.

The really big news, though, is the big figures. In 1:16 scale, there is **16006, WSS Panzer Crew LSSAH (3)**. He wears the German Navy Pattern U-boat leather jacket and trousers that we have seen so often before. However, not many companies have pulled off this uniform with such elegance. The details are exquisite, right down to the embroidered LAH logo on the shoulder tabs. The choice of heads is between the overseas cap pictured here and the M43 cap.

Like all Alpine figures, these are a snap to assemble. The 1:16 scale figure can be cleaned up and put together in about 10 minutes.

## Battalion

We are pleased to bring you some more action packed modern Russian goodies from Battalion. This little series, 35013A-D, all go together to make a nice scene around your BMP for either Chechnya or Afghanistan.

**35013A, The Russian Crew BMP (4)**, lays down serious cover fire for his comrades. His headgear is the fur-lined winter tanker helmet left over from the Soviet era.

The pea jacket he's wearing is for cold weather too and has a removable inner liner and fur collar. The

next two come as a set, **35013B/C (5)**.

**35013B** is the crewman posed to be emerging (somewhat stunned) from his hatch. He wears a khaki infantry uniform that originated from the Afghan war, identifiable by the pockets on the sleeves.

**35013C** reaches out to help in a non-standard vest and "vshivnik" knitted sweater.

Last but not least is **35013D (6)**. This infantryman also wears the "afganka" khaki infantry uniform, M60 helmet and body armor that was common to both Afghanistan and Chechnya.

Thanks to the gents at Battalion for providing background on the uniforms. All of these resin figures go together easily and molding is sharp and clean.

## Bravo 6

Nobody does Vietnam figures like Bravo 6. Their series of figures that

DID YOU EVER  
SEE A HEAD  
COME APART  
LIKE THAT?



bear a resemblance to the characters from *Platoon* has netted them a lot of attention.

In this installment, OD Green Jungle fatigues abound. **35005, U.S. Infantry Private (2) Shotgun Vietnam '68 (7)**, looks a lot like the masochistic shotgun-wielding hick from the movie. And be sure not to forget to top the walking stick of **35006, U.S. Infantry Private (3) Vietnam '68 (8)** with a bit of barbed wire. **35007, U.S. Infantry Officer & RTO Vietnam '68 (9)** are the first of the figures to come as a set. The PRC-25 radio on the back of the RTO is the best we've seen in 1:35 scale.

All of the figures in this series are excellent. The sculpting and attention to detail are first rate, and each figure has a lot of parts. Magazine pouches, helmets, grenades and other web equipment come separate, so you can mix it up a bit according to your needs. A small decal sheet with uniform patches accompanies each. The smaller parts and M16s are rather delicate, so be careful. Don't forget to wash your resin before you build, ladies—it makes the parts stick together better.

## Dragon

When it comes to WW2 figure sets, no one churns them out like the Big D.

We get cold just lookin' at **6158, German Infantry in Wachtmantel Leningrad 1943 (10)**. We recommend that you light a fire in a 55-gallon drum and roast some marshmallows while you put this set together. All four figures are bundled up in heavy watch coats (wachtmantel) and wear heavy overboots. A close look shows that someone at Dragon must have done their research. The heavy overcoats all bear slight detail difference in the collars, seams and buttoning arrangements. The boots on each figure are slightly different too. Very cool. The drapery effect on the coats is excellent for plastic and really emphasizes the bulkiness of the clothing. You will want to do some careful test fitting and trimming to get a perfect fit with the overcoats.

## Gasoline

Gasoline delivers the goods again with more sharp-looking crewmen in 1:48 scale. **50385, German Panzer Crew DAK/Italia-Sicilia (11)** is a three-figure set wearing lightweight tropical tunics and trousers. Three heads are included, one wearing an officer's cap, one a tropical side cap and the last a tropical bergmütze. The heads and arms are all separate, so you can swap them around and make something original. **50386, U.S. tank crew ETO (12)** is a perfect foursome to fill the hatches of for your Hobby Boss or Tamiya Sherman. The heads and arms are separate in this set too, except for the driver's bust.

The detail is nice and sharp on both sets, especially for quarter scale. Our favorite things about the Gasoline sets, though, is the flexibility afforded by the separate arms and heads—quite rare in this scale.

## Master Box

Recent Master Box sets are theme-oriented: all of the figures in each set are unified in the action being portrayed, in effect making a little vignette in a box. For instance, **3545, "Stukas Flying," German Infantry, Stalingrad, Summer 1942 (13)**, depicts four German soldiers laying out an air recognition flag in preparation for an impending air strike. Although the box top title places this group at Stalingrad, the uniforms and equipment





## Royal Model

On top of all those PT Boat goodies, Royal Model of Italy has kicked their resin figure output into high gear. **576, UK Infantry "Sicily 1945" (19)** depicts one Tommy in the tropical KD shorts and shirt and the other in the tropical shirt and trousers. The M1937 webbing, helmets and Lee-Enfields are pretty standard stuff and these figures will work for North Africa, Sicily and Italy. One thing that sets these figures apart from their plastic counterparts is that they have character, looking rather haggard and undernourished—kinda like our illustrious editor.

As usual for Royal, the figures have lots of parts with separate arms, heads, helmets, boots and ammo pouches. We recently got a pile of samples from Royal and you'll see much more in future issues.

## Tank from Russia

When it comes to Germans and Russians from WW2, few figure manufacturers can match Tank from Russia for action-packed excitement. Check out these two new sets of hard chargin' kraut action.

**35103, German Infantry Summer 1939-43 (20)** includes the grenade-chucking dude in the splinter pattern Zeltbahn shelter quarter and the MP40 gunner giving him cover fire. The second set also includes two figures. **35104, German Officer and Infantryman Summer 1939-43 (21)** consists of the kneeling officer with his pistol in the air and a Zeltbahn-wearing rifleman sinking along. The Zeltbahn camouflage poncho/shelter quarter drapery is the best we have seen from any company in recent memory.

Tank always delivers top-notch uniform and equipment depiction. Figure modelers should take extra care when removing small equipment parts such as binoculars, mess kits and shoulder stocks due to the delicate molding.

## Wee Friends

It's been a little bit since we got our hands on some figures from Wee Friends. They have switched it up from white metal casting to resin, and the results are very nice indeed.

**35020, German Infantryman with PPSH (22)** is actually a change for this company since they have concentrated mainly on British subjects in the past. This little fella is a highly decorated and fully equipped SS NCO. The PPSH submachine gun places him on the Eastern front and the low boots tell us it's the 1943-45 time period. His other equipment is standard for German infantry throughout the war.

It's back to the British theme with **35022, WW2 British Para NCO Pointing (23)**. He wears the standard 1st airborne division getup made famous in places like Normandy and Arnhem with the trademark Denison camouflage smock and British steel airborne helmet. The other equipment and the Lee-Enfield rifle were common to all British/Commonwealth infantry.

Both of these figures are really easy to assemble since a lot of the equipment is already cast in situ. As you can see, the level of detail definitely does not suffer because of this.

*All figures were graciously submitted for review by the manufacturers.*





# MMiR Painting Guide

by Michael Rinaldi

Number five

## WWII UK Armor SCC 15 / Olive Drab



### Using the color modulation style

**E**very now and then, there comes along a new idea that has a profound impact on our hobby. In February 2008, Adam Wilder introduced just such an idea, which he called "Color Modulation." My hat is off to Adam for this, because he has put forth a fresh, exciting technique that gives the finish of armor models a whole new look. This technique will be used by many modelers for years to come. Indeed, the Internet is already awash with a flurry of models finished in this style.

#### What is color modulation?

Simply put, color modulation is a painting process that uses artificial highlighting and panel shading to showcase a vehicle's natural shapes. In an effort to enhance his painting style and originality, Adam studied both Baroque artists and modern figure painters. His efforts resulted in the development of color modulation. A complete article by Adam about the technique is featured in Issue 46.

Color modulation works by using the base coat

colors to enhance each area of the model with more shading. Lightening and darkening these areas increases variety and contrast over a given surface. Fundamentally, you start with your primary base coat color and then create shifts within that color across a spectrum of light to dark values. The lightened areas represent the light source and its direction; the dark areas represent shadows, which reinforce the light source and its location.

As with any technique, color modulation can be taken to an extreme. Adam has produced a number of models using the technique and each took considerable effort to express various levels of contrast and variety. His goal was to see how far he could take the technique while still producing a presentable and creditable model. I have studied his models to learn about his principals and goals. Adam even has an instructional DVD (available from Mig Productions) that covers all the various methods he uses to get the best results from the style. I highly recommend that you watch it, because it covers not

only color modulation but also basic airbrushing principles that can benefit any modeler, regardless of skill level.

For this article, I chose a subject many of you know and love: the Sherman Firefly. My good friend Jorge Alvear presented me with a built-up VC version a couple of years ago and asked me for a "Rinaldi" paint job. How could I refuse? Jorge builds to an amazingly high standard and is a master at overcoming photo-etch nightmares. It was an opportunity I could hardly pass up.

I had almost finished adding the last details to the model when Adam's color modulation article came out, and I felt this model would be a great candidate for the style. In late 1944, British armor was painted in SCC 15 Olive Drab. Because this is a very similar shade to U.S. Olive Drab, the finished model can represent either camp. What follows is my attempt grasp the technique. Did I succeed? I'll let you be the judge.





**CONSTRUCTION** >> No stone left unturned—that must be Jorge's mantra. This model is a real Frankenstein effort, using nearly all of the best aftermarket components known to man. The base kit is reportedly the Dragon release, but Formations components make up the bulk of the model. To that Jorge has added Tasca's suspension (which he detailed even more), Aber's photo-etch detail set, Royal Models' resin and photo-etch update, an Eduard metal barrel and, to top it all off, Modelkasten's T54E1 tracks for both the main track runs and the spare track armor (which he kindly left for me to assemble). That is just the simplified version, because as you can see every square

millimeter of the model is detailed—check out the new weld beads and Jorge's corrections to the rear hull plate. The tools are mostly Royal Models resin bits with Aber straps. The stowage is where I come in. Using the Legends Productions Firefly stowage set as my primary source, I fill out the rear deck. Tie-downs and tarps complete the picture. For the track armor (which represents a tank from the 2nd Polish Armored Regiment in Holland, 1944), I use most of a second Modelkasten box of tracks and attach them according to reference photos from Armor Gallery's book on the Firefly VC.



**PRIMER COAT** >> By now you're probably used to seeing a picture of the primed model in my articles. I always include this step because I want to emphasize the importance of priming your work, especially with the amount of multi-media present here. It is vital to have a good surface for painting. For a complex paint job like this one, failure to prime the model can really spell the end of your project. As usual, I use Gunze Sangyo Mr. Surfacers 1200 in the aerosol can. I give the model two light coats to ensure even coverage, and then a third, heavier coat for maximum protection.

**PRE-SHADE BASE COAT** >> To achieve maximum coverage over all of the many shadow areas of this model, I apply thin layers of Tamiya XF-61 Dark Green thinned 50 percent with Tamiya Lacquer Thinner with my airbrush set at about 18 psi. Hold the airbrush about three inches from the model—if it's too far away the paint will dry before it hits the surface and leave you with an unwanted orange peel texture. When done right, this combination of acrylics and lacquer thinner paints beautifully, drying to a very smooth, matte finish.



**OLIVE DRAB BASE COAT** >> For the main base coat, I spray XF-62 Olive Drab. Two things to keep in mind are: (1) to locate a general light source for the subject (my light source is overhead, slightly to the front and down the centerline) and (2) to build up the color very gradually, maintaining a balance between the darker shadow areas and the highlights. The goal is to keep the transitions between colors smooth and natural. I leave a lot of the pre-shade coat visible for the main shadows. In this photo you can already see the modulation. For the transitions I blend increasing amounts of XF-21 Sky into the Olive Drab paint to yield the lighter shades.

**LIGHTENING THE BASE COAT** >> To further lighten and shift the color to match the greener British SCC 15, I add more Sky and a small amount of XF-13 J.A. Green to the paint mix, thinned to a 60-40 ratio. I also lower my air pressure to 15 psi and move the brush a little closer to the model, slowly building up the color up as I go along. The model is now just about where I want it in terms of the various tones, so I start to add some vertical fading streaks. For these I spray with short, quick strokes, always maintaining the same distance from the model's surface.





**FILTERS** >> One of the main reasons for going light on the base colors is to prepare for the next step: filters. These darken the model significantly. Ultimately, the goal is to bring the middle color values back to a creditable level of accuracy. On this model I apply three layers of filters to give the base coat as much depth as possible. For the lower areas I randomly apply the two gray filters shown here. For the upper areas and the turret, especially the barrel, I use the green filter. Adding more than one filter creates a very subtle tinted shift in tone from top to bottom. I like to use my air-brush for this process for its speed and controllability.



**RAIN STREAKS** >> My goal throughout the long process of weathering this model is to enhance and enrich the color modulation using a subtle combination of effects. At this stage, I introduce some streaking to the vertical sides—or what is still visible of them, at any rate. To do this, I use the lighter gray filter to very lightly streak the surface. This is very subtle, so multiple passes are unnecessary. I recommend drying the surface with a hairdryer in between each pass to clearly see the results. Applying this process to the hull and turret sides early on helps subtly build up various surface treatments to give maximum depth to the finish.



**INDIVIDUAL AREA HIGHLIGHTING** >> This step is critical for effective color modulation. The goal here is to create as much variety and contrast within a single range of color as possible while maintaining a realistic appearance. To achieve this, I use many different shades of green to slightly alter the original base color. With a fine-tip brush, I apply these mixtures to various details, like the crew hatches, drive sprocket, ventilator covers, tool brackets, road wheels, bogies, etc.



**MARKINGS** >> Lucky for me, the Polish 2nd Armored Reg. had very little in the way of visible markings. This suits me fine because finding appropriate UK markings can be a real pain. However, Archer has some excellent bridge classification symbols, including the heavier 40-ton sign shown in some of my reference photos. For the squadron triangle I use Eduard's British Tactical Symbols vinyl mask, and then hand paint the residual LST markings that were applied when the tank was shipped through Normandy.



**TOOL PAINTING** >> I add a white U.S. star on the turret top and hand paint a star on the rear engine deck for a touch of color. The tools and details are picked out with a variety of colors: light tans for the tool handles and rope, green for the fire extinguisher, dark gray for the tool heads (I never use metallic paints for tools), dark green for the camo net, dark gray-brown for the rubber on the road wheels and a whole host of Olive Drab-like shades of green and tan for the bedrolls, bags and tarps. The tool straps are first painted in mid-rust brown and the edges are then dry-brushed with a light yellowish rust color.



**SPARE TRACK ARMOR** >> One of the main visual features of this model is the added spare track armor. Although it requires a lot of work, these really need to be individually painted to express their source variety. Most spare tracks came from damaged tanks, so often they have a real mix of colors. The main color I use is dark brown rust, which I hand paint on all of the tracks. I then make three mixes of colors from this base color with which to showcase each link. I paint some of them lighter and some darker. On some, I paint just the end connectors or cleat face. I add a light colored wash and then, to show recent wear, I dry brush some darker paint.





**WHO SAYS GREEN IS JUST A COLOR? >>** Painting finishes and adding visual interest takes a pretty phenomenal amount of effort. Color modulation is a great technique for effectively doing both, especially for a vehicle that is just one color. As you can already see happening here, the base color modulation and rather extreme base coat painting are beginning to move into the background, having been balanced out by the large variety of detail painting done so far. Why is this so important? Time and expense, for sure. Let me pause here to take a moment to reflect on the phys-



ical effort necessary to execute this style of finishing. Look at the photo above—that's an extraordinary amount of paint used to represent what is essentially a single color vehicle! This is where modeling takes patience and perseverance. You are looking at about a month's worth of evenings spent at the bench painstakingly going through each detail. It's worth the effort though. Jorge took over six months of work just to get the model built, so skimping on the paint job would do this model a real injustice.



**CHIPPING >>** While we know from current research that the paint chips on Allied vehicles were not too common, I still think that they are invaluable for conveying a sense of a vehicle's lifespan. I am always very conscious not to overdo it, so I aim to make them invisible from a distance. I first apply a lighter version of the base coat using a new fine tip brush, making very small marks along the sharp edges of the hull and raised details and brackets. After that, I use a dark gray-brown color in the center of each mark, taking care to leave the lighter edges visible. This results in a 3D effect.



**DETAIL WASH >>** It's time now to get into some actual weathering. For the wash I use Mig P221 Brown and P220 Dark. Rather than brush this over the entire model, I use a small tip brush to very carefully apply the wash only to the details. My goal is to create additional depth for those particular details and also to add any streaks and stains. I am constantly working to add effects within effects. You can see the changes taking place very gradually if you carefully study these photos.



**WASHES AND STAINS cont. >>** Because there is so much detail on this model, it is critical to make each part really pop—this brings the model to life. The rear deck is loaded with stuff, so I attack it first with a brown wash to show dirty areas like used tool handles, rope knots, stains and marks on the blankets, tarps, etc. I then use a dark wash both to further enhance some of these areas and to pick out the panel lines and any places requiring heavy oil stains. The fuel stains are a mix of brownish colors that I layer from light to dark, finished off with more enamel washes to give them some sheen.



**FRONT END STOWAGE >>** I keep these items separate to facilitate the painting of the front hull and the markings underneath the gear. The oilcans are from Ultracast and the large ammo case is from Resicast. Following the principles of color modulation, each green piece gets its own unique color. I use tissue paper soaked in a solution of white glue, water and dark green paint for the blankets. Once they dry it's a simple matter to adjust their color with more paint. Adding paint into the glue mixture makes the job a lot less time consuming.





**PIGMENTS >>** Time to get dirty! This tank cries out for a heavy dose of pigment. My preferred method when using this medium is to place the model on its side and layer the pigments from light to dark. I first make a batch of light dust-colored pigments and apply them with a large round brush directly to the hull sides, road wheels and bogies. To set them in place I use another large brush to apply Mig Pigment Fixer via capillary action, being careful not to touch the surface too much. Once dry, I add a second layer of darker colors using the same procedure. Note that I do not add the darker layers as high up the hull sides as the previous layer of pigments. This conveys the wetter, darker buildup of mud while still keeping the older drier layers up top still

visible. In between the second and third layers of pigments, I apply some Mig Dark Wash to the details. More washes will be added once I finish the pigment applications. The final pigment layer is a very dark mixture composed from the colors shown above (lower right). Here I only concentrate on the lowest sections of the hull and bogies. Once everything is dry, I add the finishing touches by flicking the wash up into the hull sides with an old brush. This classic technique creates a lot of random stains quite easily. I then apply graphite on all of the wheels to show the wear from the tracks.



#### PIGMENTS cont. >>

Once the lower chassis areas are covered to my satisfaction, I have to bring the dust layers to the upper hull to blend the model together. Using the same basic principles as the previous steps, I dust the upper hull very carefully with the lighter two pigment mixes. I apply the lightest mix first, then the darker one on the lower sections. Again, I leave some the previous layer visible. To set the pigments in place this time I use my airbrush to lightly mist the Fixer from a distance of six to eight inches. This method of application creates a different visual effect and is appropriate when you only want a subtle dust layer, such as the one on the lower edge of the spare tracks. This whole process needs to be repeated two or three times because the Fixer does dissolve some of the pigments.





**EVEN MORE PIGMENTS >>** Sometimes it seem like the work never ends. On the rear of the tank, I really need some more mud effects to convey a greater sense of use. It's clear in this photo that I use the full battery of techniques to achieve the weathering. First I dust more pigments using the previously described method, then splatter some washes for random stains, and then splatter some wet pigments to create the splashed-mud effect on the rear corner.

**COLLECTED WET MUD >>** Another idea I want to put into play is the collection of wet mud along the tops of the bogies, which reference photos of Shermans show to be a common occurrence during the wet months. I take the darkest pigment mixture I have and add rather large piles of it onto the upper surfaces of each bogie. Then I take the brush I used earlier to apply the Fixer and add heavy drops of the liquid to set the pigments in place. I keep it pretty juicy so it dries to the effect seen here.



**FRONT END STOWAGE cont. >>** With the bulk of the weathering complete on the lower hull, I can now put the front stowage back on and tie it all down. I also decide to add some Hessian nets. To make these complicated items, I use thin strips of tissue paper soaked in white glue and paint, just as I did with the tarps. I dab them off on a paper towel and then carefully lay them in place. Once they dry, I paint each a slightly different shade of dark green.

**TRACKS >>** Modelkasten tracks present a special set of issues. Sherman tracks are "live" and so have no real sag, but these tracks are moveable like "dead" tracks. This causes some issues once fitted, so please ignore the look in the photo below. They will be corrected later on. To finish the tracks, I first paint each run a dark gray-brown. Over this color I spray a much lighter, rust-colored tan for a dusty appearance. I then apply some pigments dry and fix them in place. Next, I dry brush the cleat faces with the darker color to show wear and then lightly apply some graphite to show metal. Finally, I complete the tracks by applying a rust-colored wash to the end connectors for a subtle shift of tone.





**NOT QUITE FINISHED YET >>** The rest of the turret detailing consists of very light applications of pigments as a final dust layer. Over those layers, I apply some pin washes along all of the hatch openings, periscopes, the mantlet and main gun barrel. On areas that transition to the vertical, I carefully make vertical streaks and

stains with dark rust-colored oil paint. Then, I tackle the track sag situation as best as I can, but some sag remains. Rob Ervin at Formations strongly recommends adding adjustable idlers to fix this problem, but unfortunately I run out of time to do so. I'll get around to it some day. I also want to paint the crew figure shown in the construction photos.



**FINAL THOUGHTS >>** The basic concept for this project was to use color modulation create a dramatically enhanced 3-dimensional base. On top of this paint job, you can then easily see how the subsequent finishing stages work together to blend the base paint and weathering into a cohesive presentation for a very interesting, original and credible armor model. Kudos to Adam Wilder for coming up with this fresh, dynamic approach. Of course, nothing in these pages is set in stone. It is up to you to decide what elements you want to use—and please don't let any judge or fellow modeler tell you otherwise! Color modulation is now another heavyweight painting tool for you to use as you see fit. I hope that the basic principles described here will help you meet and exceed your painting goals. My thanks again to Jorge Alvear for his amazing construction job on this model. Also, thanks to the Editor for giving me the opportunity to share my projects with the readers of MMIR.



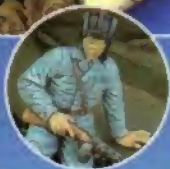
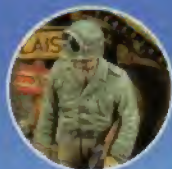


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